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Editor
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## DEPARTMENTS



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The Accounting Review

VOL. XXXIV OCTOBER, 1959 NO. 4

# ACCOUNTING: KIN TO THE HUMANITIES?

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TEACHERS of accounting are well aware of the patronizing glance. Usually they get it from the scholars in the Liberal Arts. Especially and amusingly, they get it from their friends in Economics. And they even get it from their colleagues in other business areas. Life, apparently, including university life, is bearable only if one can see someone below. No doubt accounting teachers too assume a superior air on occasion but the defensive stance is typical. Accounting, one must face it, is regarded as a narrow gauge subject in a narrow gauge area.

William H. Whyte, Jr., in his *The Organization Man* says, "Theoretically a man could major in business and still learn a lot about the humanities. But it would take some doing."[1] Words as these, uttered frequently in recent years, have given business educators pause. By and large, in the past, they felt that the problem of giving the undergraduate a broad education and certain business skills was not insoluble. But they admitted too that often the problem was not solved. And they had doubts about the continued possibility of its solution.

In present ponderings there is soul searching about the broadening character of business courses and their liberal content. Business educators probably never have felt that it was only in designated liberal areas that a business student received a liberal education. They would say that one should not overlook the intellectual content of the body of business knowledge. Some, probably few, would rest their case on the proposition that "What is taught is not so important as the way it is taught." But stocks and bonds are no match for Emerson and Thoreau. One defense centers around the fact that business decision-making is a creative activity. Simulated problems and case work which partake of this activity, it is felt, often accomplish the desired result of the liberal arts course. The hard fact, however, which always must be faced, is that business courses are not the best devices for producing the liberally educated individual. Given then that a student in many business colleges can take a solid core of business courses surrounded by a group of near-business courses bearing liberal tags, the question arises as to when he will gain the perspective that he would have found in the humanities. Consigning business studies to graduate status seems an individual rather than a universal solution. Teachers caught in the here and now may be looking for something else to grasp. Part of that something may be the reassurance that, although they are not in the humanities, they are not far away.

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[1] Whyte, William H., Jr., *The Organization Man* (New York: Simon and Shuster, Inc., 1956) p. 94.

The accounting teacher is well aware, though others are not, that his subject, far from being narrow, is virtually limitless in its breadth. At any moment, the accounting teacher understands that his lecture is touching on law, economics, labor relations, public finance, and a host of other areas. What he probably realizes too, though he has seldom voiced, is that accounting, perhaps more than other business subjects, has direct avenues to the humanities. His awareness of this is virtually certain because he is one of a group with pronounced leanings toward literature. Of the average accountant's literary interest, research has shown that he is ". . . considerably more interested in this area than is the average person."[2] If this is true of the average accountant, the interest is probably compounded for the accounting teacher. The liberal leanings of the teacher, however, may be bound in the strait jacket of subject. But accounting is no strait jacket. On the contrary, it opens the way to liberal expanses.

Someone may take issue with the observation that accounting can lift the student to the world of ideas and pose for him the issues of man in the universe. Aren't work-sheets, journals, registers, and the like the stuff which tie us all to the petty, humdrum things of earth? Who is able to look at ledgers and see the stars? The question is a valid one. While only ignorant congressmen confuse accounting with bookkeeping, the liberal content of accounting courses does not seem obvious. That accounting training develops the powers of observation and analysis, the habits of orderliness and precision, etc. has been spelled out frequently. That the introduction of accounting concepts places the student on the liberal road is rarely observed and seldom detailed. It needs explaining.

One does not have to go far to illustrate the closeness of accounting to the liberal areas. Depreciation is a topic of major significance in accounting courses. Its facets are many and changing, as the flow of articles in accounting journals attests. Discussions of the topic are ever stimulating to the mind but the fact of depreciation is a thing which touches the soul. Accounting teachers who open their depreciation lectures with the words of Henry Rand Hatfield, "All machinery is on an irresistible march to the junk heap, and its progress, while it may be delayed, cannot be prevented by repairs,"[3] are on the edge of waters where poets and philosophers bathe. "Where are the snows of yester-year?" Poetic utterances echo the accountant's prose. "Time will rust the sharpest sword." Attention is directed sharply to the temporary nature of earthly things by this accounting topic. Others may be taken in by Madison Avenue promises of everlasting bliss with a shiny automobile but the accountant must look to the hour-glass. "What is the estimated useful life?" the accountant asks. Surely depreciation, like nothing else, raises the significant questions to be asked by the liberally educated. For the mortal mechanism depreciates as well as machinery and one must ask: What is important? What is being? What is Man?

By the time the teacher has taken up depreciation and the ephemeral nature of the material, already he has set forth the idea of continuity and made intimations of immortality. At the very start of his course he has had to explain to the students that one doesn't keep books as if the entity were going to fold its tents like the Arabs on the morrow. One postulates that it will go on and on into the future. The resultant going concern statement figures

[2] Jacobs, Robert and Arthur E. Traxler, "What Manner of Man is the Average Accountant?" *The Journal of Accountancy*, Volume 97, Number 4 (April 1954) p. 466.

[3] Hatfield, Henry Rand, *Accounting, Its Principles and Problems* (New York: Appleton-Century-Crofts, Inc. 1927) p. 130.

are built on promise, not on pessimism. The assumption that "... controlling environmental circumstances will persist sufficiently far into the future to permit existing plans and programs to be carried to completion"[4] has its roots in hope. With new plans and programs ever extending the time for fulfillment, the accountant's underlying concept leads to a contemplation of continuity. And from thoughts of renewal and rebirth is it not just a half-step to intellectual musings about progress, or history, or the undiscovered country?

Perhaps no idea is impressed so indelibly upon the accounting student as the idea of balance. Usually in the first weeks he is presented with the so-called fundamental equation and the equality of debits and credits. He is asked to note what a tool of orderliness the Italians fashioned and he quickly senses the simplicity and the beauty of the device. The truism that is "Assets equal equities" is something of a Grecian Urn. As transaction after transaction are disposed with ease and grace, it becomes apparent how fit it was that the first accounting thesis burst forth upon the world amid a shower of renaissance art. The double entry artistic achievement illustrates well man's attempts at establishing order in his world. Liberal explorations will indicate less success in other areas. Rather interestingly, the exposition of the fundamental equation often brings to the surface an undercurrent of annoyance. It works too well. The phenomenon hints at the historical fact of man's irritation with the incontrovertible. Teachers in liberal areas may find that business students already appreciate why every Socrates has had to drink the hemlock.

The broadly educated, one may observe, are those who are able to see the broad picture. They are those who don't lose sight of interrelationships. For individuals and for nations the recognition that one cannot live in isolation is a sign of maturity in education. Appreciation of interrelationships is an ever growing thing in the process of getting liberally educated. By its very nature, accounting may play a useful part in this process. The accounting scheme is such that no part moves without affecting something else. "No man is an island." No debit stands alone. It is the mind schooled in auditing which knows that by looking here one discovers discrepancies there. Accounting training consists in good measure in developing a feeling for relationships, an awareness of consequences. How well the accountant knows that what he does now affects reports in the years to come. The charging of an item against revenue which might have been capitalized, the suggestion to adopt LIFO, the choosing of a period to write off organization costs, and a multitude of other such decisions indicate how far-sighted the accountant must be. The lesson of interrelationships in the accounts, it is apparent, needs only to be extended to a broader context to be a significant liberal lesson.

Is accounting kin to the humanities? One almost answers that it's too close a relative to bring about a marriage. No doubt one day, a learned accountant will make an accounting syntopicon. He will gather together the great accounting ideas which, developed in a wider sense, emerge into the great ideas of man. Accounting teachers need not wait 'til then, however, to consider the potential of their subject. They need not accept the opinion of others and concede to narrowness. Rather they should stand tall in the knowledge that their practical art touches upon the liberal arts. But they can forego the practice of the patronizing glance. Their accounting education will have been too liberalizing to permit such indulgence.

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[4] *Accounting and Reporting Standards for Corporate Financial Statements, 1957 Revision.*

# THE CRITICAL EVENT AND RECOGNITION OF NET PROFIT

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THE matching of cost and revenue has grown during the past fifteen or twenty years into a cardinal principle of accounting. We have learned to postpone or accelerate either cost or revenue, as the case might require, in order to get all the elements of a single transaction into the same period. In spite of such problems as price level fluctuations and requirements of governmental regulatory bodies, we have made considerable headway in sharpening the determination of net income. However, in this effort to sharpen the determination of net income we have given very little attention to the timing of income recognition. We have relied on a variety of rules for specific situations, not on an over-all principle. In this paper I review both the economic concept of net income and the accounting procedure in a number of specific business situations, and then suggest a principle which is compatible with economic theory and at the same time coordinates most current accounting practice. I hope this discussion will provoke further thought on the subject leading to the ultimate refinement and acceptance of a principle which is both (1) as clear and uniform in its applicability as that of matching cost and revenue and (2) sound from an economics standpoint.

Economic theorists since the days of Adam Smith have spoken of land, labor, and capital as the three factors of production. Compensation to these factors has been known as rent, wages, and interest. Under a perfectly functioning system, these three factors receive all the income. Any residual that remains in an actual case is due to the imperfections of the system in the individual case at the particular moment of time. Later economists acknowledged a fourth factor of production: entrepreneurship. Its compensation is known as profit. Profit is the reward for bearing risk—the risk of enterprise, the risk of venturing in business, the risk of owning something in hope of selling it later. This profit may be positive or negative depending upon the entrepreneur's decisions as to the directions in which to risk his capital, his labor, and his land. This profit is very close to what the accountant calls profit.[1]

Let us assume for accounting purposes that profit is the same as the profit of the economist, a reward for having taken the risks of enterprise. This being the case, profit is earned by the operating cycle, the round trip from one balance sheet position back to that position, whether the starting point be cash or inventory or any other factor. Even in a simple merchandising business several steps occur: buying, selling, collecting. The question arises as to when during that cycle any profit should be recognized. Should the profit be recognized when a specific point on the cycle is reached, or should it be spread over that

[1] The accountant's profit includes, in addition to the economist's reward for bearing the risks of enterprise, "interest" on the owner's investment and, in some cases, "wages" to the owner of an unincorporated enterprise. However, these two variations do not negate the basic relationship between the profit of the accountant and of the economist. The wage element may be omitted for it is pertinent only in the unincorporated business, and even in such businesses there is a growing tendency to include a fair wage to the owner among the expenses. Interest is seldom if ever set out separately but in profitable corporations it may well be a minor part of the profit.

cycle in some manner? If it should be recognized at a point, what is that point? If it should be spread, what criterion should be used? In order to set some limits on this article, I have assumed that profit should be recognized at a single moment of time. This article will be devoted, therefore, to a consideration of the moment of time at which to recognize the profit. Perhaps after considering carefully the implications of the assumption we shall be in a better position to consider the question we have by-passed.

If profit is to be recognized at a moment of time, we must select that moment. The economist gives a clue in the function of entrepreneurship as the function of directing a business, bearing the pain of the risks, and reaping the rewards of astute decisions. This suggests that profit is earned at the moment of making the most critical decision or of performing the most difficult task in the cycle of a complete transaction. Just what event this is may not be easy to distinguish in many cases. Although in most types of business we recognize profit at the moment inventory is converted into accounts receivable, such timing is far from universal.[3]

Let us examine a number of different types of businesses (1) to determine what is done and the apparent theory behind such action and (2) to test the applicability of the critical function theory in that business. In so testing the theory, we must remember that it must not fall merely because the critical function is difficult to determine. A proposed accounting theory must provide the basic objective and leave room for developing means of implementing that theory. Objectivity is one of the desiderata of any means of achieving a goal, but it in itself must not be allowed to be the goal.

Merchandising is one of the most common businesses. The merchant generally performs three steps: (1) wise buying, (2) effective selling, and (3) efficient collecting. If "wise," "effective," and "efficient" permit, there is a profit. We recognize the profit at the time the second step, selling, is performed. Two reasons commonly are given for recognizing profit at this time: (1) an asset has been transferred for a valid claim (transfer); (2) the merchant's opinion as to value is not needed (objectivity). To claim that any profit was realized at the time of purchase would be contrary to our past heritage, but to defer profit until cash has been collected is not uncommon. Major reasons for deferring profit realization until receipt of cash are the risk of collecting in full and the possibility of incurring additional expense. Bad debt and collection expenses are common, but most businesses feel that they can set up adequate reserves for the estimated expense. Thus, it sounds as if the real principle behind current practice were certainty, but that cannot be so for we do prepare income statements in spite of such major uncertainties as unaudited income tax returns and renegotiable contracts.

The principle of the critical event seems to fit the situation of the merchant very well. Where collection is a critical problem (and I doubt if there are many cases where it is), profit may be taken up at collection time. For most businesses, most of us would agree that selling is the critical event and that profit should be recognized at that time. In rare cases buying might be critical, as where an extremely good price is paid for some rapid-turnover, staple item.

A manufacturer's business is much like that of a merchant except that an extra step is added, converting the purchased raw materials into salable units. This gives

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[3] One clue to the most difficult or crucial task in the operating cycle may be the function of the business from which the president was selected. Was he in sales, manufacturing, collection or something else? A background in sales would tend to confirm most present accounting practice.

an extra point at which profit might be recognized, i.e. time of efficient manufacture. In general we do not use this time because of uncertainty as to eventual sale price. However, in the case of gold refining where the market is assured, profit is recognized at the time of manufacture. The same reasoning as in the case of the merchant seems to apply; again it is the certainty principle. The critical event principle also is pertinent. Selling is very important in most cases; in gold mining it is a mere clerical detail, for the market and the price are assured by the government.

However, in contracting and manufacturing goods to order, especially if the manufacturing time will extend over several fiscal periods, the situation is quite different. In many cases there is no assurance the goods can be made at the contracted price. Therefore, profit is recognized when it becomes certain, when the goods have been made. The critical event theory, if applied to this situation, might be construed to come to the same answer as the certainty theory. In many cases it probably will. However, there may well be cases when profit should be recognized at sale date before the goods are manufactured. If a manufacturer regularly makes standard items for stock, it does not seem right to defer profit recognition beyond sale date merely because the item is temporarily out of stock. Somewhere between these two extremes there will be a twilight zone in which determination of the critical event will be difficult, but knowing that such an event is the determining factor would clarify thinking considerably.

Some people argue that profit can be recognized only when a transaction has been completed, when both purchase and sale have taken place. They argue that both of these elements are necessary and that the sequence of the two is immaterial. This almost assumes that the normal position is to have nothing but cash and that any other position is one of risk. A merchant would consider himself on dangerous ground, assuming he plans to stay in business, if he did not have a stock of merchandise. Anyone who has maintained a heavy cash position in the last decade or so has been assuming a position in which risk (of price level change) has been high. Consider an individual who has accumulated more funds than needed for current living and for an emergency cushion. The normal position for him is to have an investment in stocks or bonds. When he is out of the market, he is assuming substantial risk until he reinvests. There is a real question if he is to measure profit from purchase to sale of a security or to measure from the time he gets out of the market until he again assumes his normal position with respect to the market. Point of view seems all important. What is the critical function in making a profit? This question may be a most useful over-all guide.

Profit is recognized by magazine publishers in the period when the magazines are distributed. In most cases sale occurs and cash is received at the time the subscription is booked. Manufacturing costs are incurred shortly before distribution date. Advertising revenue as well as sale price are considered earned at the time of publication. There is serious question if this routine is correct even using the theory of certainty typically followed by manufacturers. Long in advance of publication date, the sales of magazines (by subscription) and of advertising are known. Printing costs are usually incurred under long-term contracts, so no element of uncertainty appears here. The only other element is the editorial one. Since most or all of the editorial staff will be paid fixed salaries, no uncertainty exists here. If the certainty theory is to be used, profit should be recognized at the time the subscription is sold. Among the currently

used theories, only the completed contract theory explains the present practice.

Under the critical function theory we must determine whether sales of magazines, sales of advertising, or production of the magazines is the critical function. Without good advertising contracts, the firm cannot prosper. Since advertising rates are based on circulation, sales of magazines seems all important. However, unless the editorial work pleases the subscriber, he soon will fail to renew his subscription. The readers' response will be felt much more quickly in newsstand sales. Choice as to which of these functions is the critical one may well not be unanimous. If it is agreed that editorial work is critical and that editorial work culminates in publication, then the current practice is appropriate.

Lending agencies (banks, small loan companies, etc.) generally recognize profit over the period a loan is outstanding. When the note is discounted at the inception of the loan, the banker has, in a sense, collected the fee in advance. The fact that this fee is called interest might lead the unwary to assume that it should be spread over the period, because the payment is based on time. However, closer inspection shows that the theory behind the lending agency's recognition of gross income over the period of the loan is that many expenses (particularly interest paid on money loaned out and collection and bookkeeping expenses) are spread fairly evenly over the loan period. If expenses of setting up the loan are also spread over the collection period or are minor, the matching of revenue and expenses is well done. The resulting net income is spread over the loan period. In a sense the situation is somewhat comparable to the contractor and magazine publisher in that the customer has been "sold" at the beginning and only rendering of service is left to be performed. Profit is taken up as each piece of the service contract is completed. However, a fundamental difference exists, the manufacturer and banker have different responsibilities after "sale." The manufacturer or publisher must incur many costs to complete the service to the buyers. The banker's role is much more passive; he has only to wait for payments in the normal order of business.

The current practice of recognizing income during the period the loan is outstanding does not seem to agree with the critical function idea. The only things happening while the loan is outstanding are (1) the money borrowed to lend is incurring interest charges and (2) the economic situation is changing, especially as regards the borrower and his ability to pay. If the loan requires periodic payments there is an additional bookkeeping function. Perhaps in individual cases the critical function is the decision to loan or not to loan. If that is so, profit probably is earned at that time even though collection and exact determination of the amount might be delayed quite some time. This delay is, I am sure, one of the reasons profit is measured over the life of a loan. The service-rendered concept might be another reason for accruing profit over the life of a loan, but my experience is that the borrower receives the greatest service at the time he gets the money. Many merchants selling on the installment plan recognize all profit at time of sale of the merchandise and set up adequate reserves for loss. Their situation is only slightly different from that of a lending agency. The goods are sold and the loan is made in a single transaction. In the merchant's case, more rests upon this event than does in the case of merely making a loan. Nevertheless, a satisfactory or unsatisfactory lending policy, it seems to me, is the one thing that makes loans profitable or unprofitable.

A company owning and renting real estate presents an interesting case. Typically, rents are taken into income in the

period to which the rent applies. Expenses are recognized as incurred. A major function of such a firm is providing various building services through payment of taxes, insurance, and the costs of maintenance, heat, and elevator operation. Rental of small dwelling units on a month-to-month basis is very different from rental of large areas for manufacturing or office use. Not only may more service be required for commercial purposes, but also the term of the lease will probably be considerably longer so that the tenant may feel justified in making many improvements to suit his operations. Even though the lease term may be short, there will be a strong presumption to renew because of the large expenses of moving. Under these circumstances, is profit really earned merely by serving the present tenants? When a major tenant occupying a whole floor or two is secured or lost, it would seem a renting firm would have real cause for a feeling of profitability or loss thereof. I would suspect the agent securing a long-term tenant would be well paid in recognition of his great service to the real estate company. The critical function theory would seem to demand that all profit for the term of the lease be recognized at this time. Practical difficulties of determining the ultimate profit from such a contract are large. The basic cause of the problem is the custom of determining profit at least annually. Although this custom is the root of the whole problem discussed in this paper, the problem is larger here because of the length of term of the contract. The practical difficulties of applying the theory in this case must not be the cause of rejecting the theory. If the critical function theory should be correct theoretically, then we must strive to find a way to apply it to the practical situation.

The theory of the critical event as the moment at which to recognize profit or loss on a transaction seems very useful. In the types of business which we have considered, it rather closely matches current practice and gives insight into the true nature of the business. It is a theory based on a fundamental economic process rather than upon such frequently used rationalizations as convenience, conservatism, certainty, tax timing, and legal passage of title. This theory may, at first, seem a radical departure from current practice. Upon further thought it does not seem so different. Perhaps this critical event theory will be rejected in favor of another, but the present status of relying upon many different theories of when to match revenue and expense cannot long stand in a profession. We need to give special attention to the development of a single theory for the timing of profit recognition.

AMERICAN ACCOUNTING ASSOCIATION

*Announcement of*

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FOR ACADEMIC YEAR 1960–1961

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The purpose of the fellowship program is to increase the supply of qualified teachers of accountancy in the United States. Fellowships will be awarded to assist individuals in furthering their preparation, through doctoral studies, for teaching in colleges and universities.

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2. A master's degree or equivalent in accountancy, business administration, or other relevant areas.
3. Recommendation by the institution at which the applicant is currently in residence, the university at which he has begun the doctoral program, or the university which awarded the master's degree.
4. Need of financial assistance.
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The closing date for receipt of applications and supporting data is March 1, 1960. Awards will be announced on or about April 15, 1960. Requests for application forms should be addressed to:

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# SOME SEVENTEENTH AND EIGHTEENTH CENTURY DOUBLE-ENTRY LEDGERS

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THIS essay presents the results of an examination, from the point of view of accounting technique, of the double-entry ledgers of six individuals and one partnership, ranging in time from 1665 to 1774. The records examined are not in any way a representative selection; they are records which have been brought to my notice and which have been readily accessible to me.[1] No attempt is made to describe or analyze the accounts comprehensively; I have confined myself largely to the scope of the accounts and to a group of related questions concerning balancing, profit calculation and the statement of asset values. These topics are perhaps the most interesting for practitioners of accounting, and concern matters which are relevant for the use of past account-books as source material by economic and business historians.

It will be observed that a considerable diversity of practice is revealed in the seven sets of records. Though almost every one of the individual practices and procedures in these ledgers is mentioned in one or other of the large number of contemporary treatises on accounting, the ledgers disclose a greater diversity than one would have expected from an examination of the treatises, which tends to produce a more clearly defined picture of a modal pattern.[2] It is possible, of course, that the examination of further examples of surviving ledgers may reveal a similar modal pattern.

In the course of the discussion some comparison with present-day procedures will be made; but there is no implication that present-day practice is the appropriate standard against which to test the adequacy and suitability of earlier practice. Indeed, insofar as one can put oneself in the position of the owners of the enterprises or properties recorded in the group of ledgers, it seems to me that the records and accounting procedures were well designed to provide the necessary sorts of accounting information. Differences between the earlier accounting practices and those of today are more likely to reflect changes in the requirements of those served by the accounts.

## I

The ledgers which have been studied are:

William Hoskins, ledger A, 1655–67.[3]
Sir John Banks, ledgers B, C, & D, 1657–99.[4]
Sir Robert Clayton and John Morris, ledgers 9 to 12, 1669–80.[5]
Sir Dudley North, great ledger, 1680–91.[6]
Richard Du Cane, ledger D, 1736–44.[7]
Peter Du Cane, ledgers C & D, 1754–8.[8]
William Braund, ledgers F & G, 1758–74.[9]

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[1] I am grateful to Dr. K. Burley, now at the Australian National University, Canberra, and Dr. D. C. Coleman, of the London School of Economics, who introduced me to the records and helped me in many ways.

[2] An earlier article ("Scientific Bookkeeping and the Rise of Capitalism," *Economic History Review*, 2nd ser., vol. I, 1949, reprinted in W. T. Baxter (ed.), *Studies in Accounting*, 1950) is based almost entirely on a study of the treatises. Despite the difference noted in the text, above, the general conclusions in that article seem to be strengthened by the present material.

[3] Goldsmiths Library, University of London.

[4] B & D in Kent County Archives, Maidstone; C in Guildhall Library, Corporation of London.

[5] Guildhall Library, Corporation of London.

[6] Kent County Archives, Maidstone.

[7] Essex County Archives, Chelmsford.

[8] Essex County Archives, Chelmsford. I have not examined other surviving ledgers of Peter Du Cane in this collection.

[9] Essex County Archives, Chelmsford.

Some information on the owners of these ledgers, and on the scope of their ledgers, follows.

Little is known of William Hoskins. From his ledger it appears that he lived in Cherbourg, and that until about 1661 he had close business relations with a John Haysome, also of Cherbourg until he returned to England in 1657. The ledger refers almost entirely to business transactions, in many of which Hoskins acted as agent for others, or in partnership first with Haysome and later with Richard Berien. The scale of business done was small. It is clear from certain entries, however, that the ledger, "keept and written by mine owne hande," did not cover all his possessions and, presumably, activities. Several debit entries in the profit-and-loss-account in the 1660's refer to the removal of assets from the scope of the ledger; for example, an amount owed by his brother was removed in this way from the ledger, presumably because it was to be paid (or had been paid) to Hoskins (or on his behalf) in England.

Sir John Banks (1627–99) was a wealthy merchant-cum-landowner. He was "born in middling circumstances in Maidstone, became a member and later Governor of the East India Company and acquired a very considerable fortune. He died with nearly £200,000, and left an income of almost £5,000 per annum to his daughter and co-heir who married Heneage Finch, subsequently Earl of Nottingham and Aylesford."[10] His ledgers embrace all his assets and financial activities, as is specifically stated in the inscription on the title-page of ledger C:

> Leager No. C: or booke of accompts for all Marchandize, Land, Things and Persons, that concerne the reall or personall Estate of myne. or of whom ever I have to doe with: as well for what I doe owe to others, as what others doe owe to me—The Ballance of my last booke No. B being brought forward into this, w$^{ch}$ God Prosper. And this booke begins to be written the 2$^{d}$ Aprill 1672: the last booke No. B as aforsaid being fully written out:
>
> John Banks.

The ledgers are mainly concerned with land-owning and property transactions, financial dealings and very occasional trading activities.

Clayton and Morris were in partnership as scriveners in the City of London.[11] Of the two partners, Robert Clayton, described by John Evelyn as "this prodigious rich scrivener," was by far the more important person. Both men were aldermen, but Clayton also served as sheriff and was Lord Mayor of London in 1679–80. He was active in Whig politics and sat in the House of Commons on several occasions. He was knighted in 1671, and "his riches provided delectable fare for satirists who noted his failure to secure a peerage." His rapid progress in civic affairs and status is well illustrated in the title in the first of the surviving ledgers (1669–72) of the "general account" (which is best described as a combined profit-and-loss account and capital account in the name of the two partners). At first "Mr. Robert Clayton" came after the name of his partner. It then became "Robert Clayton, Esq.," and next, as "Alderman Robert Clayton," it preceded the name of his partner. It then appears on successive pages as "Sherife Clayton" and "Sr Robert Clayton."

The firm of Clayton and Morris was engaged in a variety of activities, including some which today are the concerns of financiers, bankers, solicitors, and estate agents. The surviving ledgers naturally deal with the affairs of the partnership, though the distinction between the individual partners on the one hand, and the partnership on the other, seems to have

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[10] D. C. Coleman, "London Scriveners and the Estate Market in the Later Seventeenth Century," *Economic History Review*, 2nd ser., vol. IV, p. 225.

[11] See Coleman, *op. cit., passim;* also *D.N.B.*, XI.

been somewhat blurred.[12] An interesting and odd feature of the ledgers is that they did not record or maintain records of all partnership assets and liabilities. An example will make this clear. In 1669 the Earl of Manchester borrowed £9,500 from three lenders, the loan taking the form initially of a credit on Clayton and Morris for the amount. The Earl's account was credited in full, and the accounts of two of the lenders were debited for their shares of the loan. But the £2,000 advanced by the third, Henry Avery, was not debited; instead, the amount was debited to the "general" (capital) account despite the fact that there was an account for Avery in the ledger. Thus a partnership asset disappeared from the books. Another example of analogous character may be noted. In the general account in ledger 11 an amount of £4,600 was credited for the sale of land to Sir William Langham. As no asset account was debited—there was in any case no account for land in the ledger—the entry almost certainly refers to the sale of land, which had not been recorded in the ledger as an asset, for cash to Langham. (The cash accounts were not incorporated in the ledger and have not survived.) Here, then, a partnership asset was left outside the scope of the partnership ledger until it was transformed into cash and at that stage had to be made subject to the accounting control by inclusion in the ledger. The credit to the capital account was the obvious double-entry counterweight.

It should be clear from this discussion that the balance of the partnership capital account did not reflect the full extent of the partnership's assets and liabilities, as certain assets and liabilities were left out of account. Moreover, it is apparent from the ledgers that some revenues from excluded assets were recorded in the ledgers, presumably because their administration was best dealt with in the organized accounting system, and the receipt of cash necessitated the usual accounting control. Thus the general account was credited with appreciable sums of rents received (£3,774 in 1674–5, £5,461 in 1679–80), though no commensurate investments in land and property appear in the ledgers. It is also probable that some of the revenues and expenditures on interest account pertained to principal sums not recorded as assets or liabilities in the ledgers. The ledgers are therefore imperfect documents for establishing the wealth of the partnership, the composition of its assets, and the rate of return on the capital employed in the business.

The exclusion of certain assets and liabilities may perhaps be explained on the grounds of the partners' desire for secrecy, to conceal some details of their wealth from their counting-house staff.[13] It is true that the entries for the two transactions described above would have disclosed the disappearance and appearance of the assets in question, so that the concealment would have been imperfect; but it would have in-

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[12] The two partners seem to have had a joint household, for the "general account" (a joint capital account in the names of both Clayton and Morris) is debited with many entries for housekeeping expenses; for example, on 30 September 1670 it is debited with £863 "paid Mrs. Clayton at severall times to this day for housekeeping." Again, a large part of the expenditure (£3,785) in "The Accompt of Sr Robert Clayton's Mayoralty" was closed into the general account. On the other hand, the expenses of his sherifalty were transferred to Clayton's "proper" account. It is interesting that there was no division of partnership profits between the two partners during the eleven years of the ledgers. The fact that Morris left his estate to Clayton on his death in 1682 suggests the lasting intimacy between the two men, who had been fellow apprentices and then successful business partners.

[13] One imagines that details of the excluded assets and liabilities were kept in other books or records, though the existence of such documents is not mentioned in the ledgers. However, in one case, at least, it is virtually certain that there were separate records. After the accounts had been closed on 30 September 1674, a large number of personal accounts of lenders and borrowers were introduced into the ledger, with corresponding entries in the capital account. These clearly were for loans not previously recorded in the ledger, though, given their large number, some systematic records must have been kept. The effect of their introduction into the ledger was to convert a debit balance of £18,219 on capital account into a credit balance of £1,921.

volved a conscious and sustained effort on the part of any clerk to keep track of such entries over a period of years.

Sir Dudley North (1641–91), the Turkey merchant, is well known as the author of *Discourses on Trade* (published in 1691) which has been praised as the first great exposition of free-trade doctrines.[14] At an early age he was apprenticed to a merchant in the Levant trade; later he spent many years in trade, mainly in Constantinople. He returned to England in 1680, a wealthy man, and engaged for a time in political activities. His surviving "great ledger" covers his years in London, and refers almost exclusively to his multifarious business and property-owning activities. His activities included trading with the Middle East, Lisbon, Antwerp and Hamburg, and also some insurance, money-lending and a silk-throwing venture.

Richard Du Cane (1681–1744) was member of parliament for Colchester in 1715–22, and a director of the Bank of England.[15] His son and heir, Peter Du Cane (1713–1803) was a director of the Bank of England and the East India Company. Richard's only surviving ledger covers his last years when he had withdrawn from trading. His ledger and those of his son largely concern their ownership of land and investments in joint stock companies, and their domestic expenditures. Not all the assets, however, were included in the ledgers. This is clear in repeated entries in Richard Du Cane's "ballance book" (described below) to the following effect:

> N.B. I make no valuation of the Lease of my house in Pancrace Lane, household goods, pictures, plate jewells &c. thô might be justly valued at £2,000.
>
> Coggeshall this 16 Jan. 1738.
>
> This day I ballanced my books and found all right.
>
> Richard Du Cane.

Moreover, an entry in a ledger account indicates that his house at Coggeshall was also not included in the accounting.[16] Peter Du Cane also excluded a similar collection of assets. Both capital accounts and balance accounts include statements along these lines:

> N.B. In the above Balance no valuation of Plate, Jewels, Household Furniture, Coaches or Horses are Included—nor Deer in ye Park.
>
> There are likewise standing in my Name the following Stocks—viz[t] . . . £3,800.

William Braund (1695–1774) is the subject of a monograph study by Dr. Lucy Sutherland.[17] He was "merchant, shipowner, and shipping insurer, Director of the East India Company and of the Sun Fire Office" and died "in prosperous commercial ease at the age of seventy-eight." His two surviving ledgers cover his last twelve years, and the last asset accounts contain notes on the disposal of the assets signed by his three executors. The ledgers appear to cover all Braund's property, except household belongings.

## II

This section describes the frequency of balancing the ledger, the accuracy of balancing, and the accounts specially involved in the balancing process (the profit-and-loss and balance accounts). The balancing procedures adopted throw light on the extent to which the owners of the ledgers may have had need of brief, synoptic, and concentrated statements of the progress and position of their affairs and activities as distinct from the type of information which

[14] For brief biographical details, see W. Letwin, "The Authorship of Sir Dudley North's 'Discourses on Trade'," *Economica*, new ser., vol. XVIII, p. 36.

[15] He was a descendant of a family of Du Quesne who fled to England from Flanders during the rule of the Duke of Alva. His ledger and balance book are written in English with an admixture of French words.

[16] The account entitled "Terres en Essex" included only £250 for the house and furniture at Coggeshall. This small amount was eventually written off in the ledger after the assets had passed to Peter Du Cane on the death of his father.

[17] L. S. Sutherland, *A London Merchant 1695–1774*, London, 1933.

they could have obtained by paging through a ledger or examining individual ledger accounts. My impression is that there was no pressing need for such summary statements, a conclusion which is not surprising in view of the apparently close connection between the owner and his enterprises. In several cases he was his own accountant. (Hoskins, Banks, Richard Du Cane and probably Peter Du Cane wrote up their own ledgers; but Clayton and Morris certainly did not keep theirs.) The balancing process, it seems, was mainly concerned with more narrowly bookkeeping purposes, and the calculation of profits, for example, probably was an unimportant and incidental by-product. But such a conclusion is necessarily tentative, if only because one does not know whether other relevant accounting documents and records may have disappeared.

Annual balancing is the rule in the Clayton, Peter Du Cane, and Braund ledgers. The ledger of Richard Du Cane was balanced irregularly, on six occasions in a span of nine years. The balance on the profit-and-loss account, called the "Esgalement," was usually carried to capital account, though on two occasions it was simply carried forward. Irregular balancing is also a feature of the Hoskins and Banks ledgers. The Hoskins ledger was balanced five times during ten years; the last balancing date was during 1665, after which the ledger entries continue in a rather ragged manner without subsequent balancing. The three successive Banks ledgers extend from 1657 to 1699, the year of Banks' death. The profit-and-loss account was balanced and closed into the stock account on 13 occasions in a period of 43 years, viz. March 1658, December 1661, June 1663, May 1665, September 1666, December 1669, March 1672, June 1676, May 1679, June 1684, April 1686, October 1688 and January 1692.[18] There is nothing in the Du Cane, Hoskins, or Banks ledgers to indicate why the particular irregularly-spaced balancing dates were chosen, except that in one or two cases in the Banks ledger B the profit-and-loss account was balanced and closed into the capital account when the space allotted to the former had been filled with entries; and, of course, two of the balancings coincide with the opening of a new ledger.

The North ledger differs from the others in that there is no balancing or closing whatever. The profit-and-loss account was merely balanced whenever the ledger-page allotted to it was used up, but the balance was carried forward to the same account on the next page given to it. The timing of the balancing was therefore quite arbitrary. Moreover, the profit-and-loss balances thrown up in the process were also arbitrary, and not the outcome of a process of deliberate calculation, since other nominal accounts were not balanced and closed into the profit-and-loss account when it was to be balanced.[19] These nominal accounts were balanced only when their pages had been filled. Thus the balance of the "Acc° of Rents in Bristoll," including both debits and credits and running over a period exceeding three years, was extinguished by transferring the net credit balance to profit-and-loss account: "To Profitt & Loss carried to that acc° to Ballance itt for want of room."

The duality of entry in a system of double-entry accounting provides, as is well known, a simple *prima facie* test of the arithmetical correctness of a ledger: at any

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[18] In June 1696 several nominal account balances were closed into the profit-and-loss account, but its balance was not closed into the capital account.

[19] The same is true of the profit-and-loss balances in the Banks ledgers whenever the account-space was filled up but no general balancing was carried out. Banks seems to emphasize the difference between accidental and deliberate balancing of the profit-and-loss account: in ledger C (fo. 54) the balancing entry on a general balancing date reads: "To Stocke . . . God be praysed"; the other, when the account-space was spent and a transfer to a new page was necessary, reads: "To Profitt & losse new acco."

time the sum of the debit balances in the ledger must be equal to the sum of the credit balances. Writers on accounting often praised this characteristic of the system, and instructed their readers to ferret out the source of discrepancy if the required equality was found to be lacking. It is difficult to know how often this advice was followed. But on at least three occasions in the ledgers under discussion the accounts were found by those concerned to be out of balance, yet they apparently did nothing to correct the books. The required equality was restored by manipulation, in two cases openly, in one case covertly.[20] In the Hoskins ledger there is a debit entry in the capital account: "Error on my books to ballance all acc°." In the profit-and-loss account in the Banks ledger C one finds: "By error w$^{ch}$ I cannot yet finde." The concealed correction of error is in Braund's ledger G. The balance account of 1770 is shown to balance. One of the credit balances is £675.14.6 for profit-and-loss account, it having been the practice in Braund's ledgers to carry forward some balance in this account after having transferred either a round sum of profit to capital account, or a sum sufficient to make the closing balance on capital account a round sum. The entry is a bit suspicious, because an earlier amount has been erased, and this in a set of books which are generally impeccable in form and appearance. Reference to the profit-and-loss account shows that the corresponding balance is in fact £684.6.0, which unfortunately would upset the ledger's equilibrium.

It is not the point to criticise these failures to find the errors and rectify the books. Not being responsible to anyone but themselves, the owners were obviously at liberty to please themselves. But it is worth observing that there is evidence that in other respects, in matters touching the interests of others or in keeping check of particular assets, strict accounting was maintained. Hoskins had very detailed and careful accounts of his dealings as factor for others or in his partnership ventures. There are indications that Banks and Clayton brought "the bag and the book" together. (For example, there are occasional entries in the cash account in the Banks ledgers, "To Profitt and Loss misplaced.") And in the North ledger, where there is no sign that anyone bothered to try to balance the books, there are not only meticulous accounts for the various trading voyages, but there is also evidence of careful accounting in that the very active account with Sir Francis Child and partner, the bankers, agreed with the bankers' version, without any need for final adjustment except for an entry for twopence, "error in casting a bill of exchange."

The profit-and-loss accounts in the Peter Du Cane ledgers conform most closely with present-day practice in the sense that there is a good deal of grouping of individual incomes and expenditures into a few relevant headings. The profit-and-loss account is preceded by an "Income" account, with debits (one for each) for "expences" and "charities" and credits for "produce of estates" and "dividends." Each entry represents the total of a more detailed account, which in some cases consists of balances of other more detailed accounts. Thus the "account of expences" brings together the totals of accounts of a number of different expense accounts (e.g., "my expences," "my childrens expences," and "expences attending the sickness & Funeral of my most dear wife"). The profit-and-loss account takes up the balance of the income account, and also entries for losses or gains in the value of stocks, and building and repairs expenses. This grouping may be compared with the treatment in the Braund ledgers, where the main (sometimes only) entry in the annual profit-and-

[20] The amounts of the error are small in each case, but may of course be the result of a number of larger errors.

loss account is a "sundries" entry, representing the total of balances on other accounts transferred in one omnibus entry to profit-and-loss account *via* the journal. The ledger account is correspondingly uninformative, except as regards the profit total. At the other extreme are the profit-and-loss accounts in, for example, the Banks and North ledgers. Here there is little grouping and a jumble of entries.

The Clayton ledgers are peculiar in that there is no separate profit-and-loss account. The "general" account served both as a partnership capital account and as a profit-and-loss account. Thus, though there is an annual balancing, there is no single figure for the annual profit. Moreover, up to the year 1674–5 there was little grouping of similar profit-and-loss transactions in separate nominal accounts, with the exception of two accounts for petty expenses and rents, respectively; each of the numerous entries for interest was debited or credited to the general account. In that year, however, two new nominal accounts were opened, one for interest and the other entitled "contingent profits" (and apparently referring to incomes accruing to Clayton and Morris for acting as intermediaries in financial transactions and for "scrivening"). Consequently, the major items of income and expenditure were more conveniently grouped and annual totals presented in the "general account" which still, of course, contained a large number of other (including capital) entries.

From contemporary treatises one learns that the profit-and-loss account was not reserved for items of a "revenue" nature as distinct from those of a "capital" nature; and also that domestic or private expenditures were admitted in the account together with business incomes and expenditures. This is largely confirmed in the ledgers under discussion, more particularly as concerns the mingling of business and private entries. Capital items (e.g. the payment of marriage portions) were, however, relatively more often recorded directly in the capital account. The closest approximation to modern practice is found in the Braund ledgers. Braund's personal cash drawings were debited to capital account ("to cash paid Self"); this account was also debited for gifts of money to relatives and for the purchase of wine. Moreover, the capital account was on occasion credited for odd items, such as for the proceeds of the sale of sheep, wool, and wheat; it is as if Braund was making a distinction between income from his main business activities and other incidental or extraneous incomes.

According to the treatises, a well-kept set of accounts would be completed, at balancing, with a balance account, which brought together all the remaining account balances after the closure of the profit-and-loss account into the capital account. This balance account is the forerunner of the modern balance sheet; and like it, it was supposed to contain a listing of assets and liabilities and the equilibrating capital balance.[21] In fact, in our group of ledgers, balance accounts appear infrequently. Only in the Peter Du Cane ledgers does the account appear regularly at each balancing, set out in the form of the modern English balance sheet, that is, with debit balances on the right-hand ("credit") side, and *vice versa*.[22] It is probable that Richard Du Cane also had a balance account at each balancing date; but in this case they

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[21] Sometimes, however, the balance account in treatises does not list the balances, but merely has two equal and opposite "sundries" entries, with the details in the journal entries. There is an example of such an uninformative account in the opening balance account in the Banks ledger C.

[22] Some of the treatises recommend that the old set of accounts should be completed with a "closing" balance account, and that the next set of accounts should be inaugurated with an "opening" balance account, an account identical with the corresponding closing account, except for the reversal of sides. (This practice is to be found in the ledgers of the Bank of England during the eighteenth century.) The Du Cane balances have the formal characteristic of an "opening" balance account.

did not as a rule appear in the ledger (a fact which points to the limitations of drawing conclusions from ledgers alone.) A separate "ballance book" was employed, and one survives for the period 1706–1738. In it an account, roughly in the form of a balance account (again with debits and credits "reversed"), is drawn up for each of the first two balancing dates in the surviving ledger.[23] It may be assumed that the practice was continued in a lost successor to the surviving balance book.

There is only one balance account (in 1770) in the two Braund ledgers; and two in the three Banks ledgers, one at the end of each of the first two ledgers.[24] The Clayton ledgers have no balance accounts, and it is unlikely that in this case such accounts were compiled separately.[25] There are also no balance accounts in the Hoskins ledger nor, of course, in the North ledger.

## III

In modern accounting much stress is laid on the correct assignment of items of income and outlay to particular accounting periods, and certain rules and conventions are followed for dealing with the difficulties inherent in a situation in which the enterprise is continuing and the accounting periods are arbitrarily-determined short periods. The stress in modern accounting is on the calculation of periodic net income or profit. By contrast, in the group of ledgers under discussion, little attention seems to have been given to this aspect of the accounting problem; and it is rare to find deliberate procedures for the calculation at general balancing dates of periodic profits on continuing business activities.

The neglect of what today is called accrual accounting is evident in the treatment of interest on debts, a class of transaction prominent in several of the ledgers. There is no thorough-going attempt in any of the ledgers to make allowance for accrued interest at balancing dates, though sometimes, but not consistently, a number of entries for unpaid interest was put through at balancing dates in the Banks ledgers. The most common practice was to make the entry for interest when, or after, the interest payment became due, without adjustment at balancing dates. Thus in the Clayton ledger 9, for example, the personal account of Sir Robert Vyner, the noted banker, was debited on 4 January 1671 with an amount "Paid them [Clayton and Morris] more Intr of all moneys upon acc$^{t}$ to this day";[26] there were no adjusting entries on the preceding or succeeding balancing dates (on 30 September annually). Sometimes the entry was made when the interest was received or paid. A good example is in the Braund ledger F, where a personal account was debited "To Interest on £1017.16.8 for(?) 3 Febry 1757 to 3 Sep$^{t}$ 1761 is 4 year 7 m at 5 per cent" on the day on which the debtor settled his account. There were no entries for accrued interest in the preceding four years. The same neglect of accruals is to be seen in the Clayton and Banks ledgers in the treatment of rents and, in the former, of "contingent profits."[27]

[23] The Du Cane ledger did not have an ordinary capital account. Entries in the "Esgalement" account suggest that the periodic profit balances were transferred to a capital account in the "livre privé." It seems likely that the balance book is this secret ledger. A capital account was eventually introduced into the ordinary ledger in 1743.

[24] See also footnote 21.

[25] The closing entries for balances in individual accounts take the form: "By Ballance the 30th September 1672 posted to Liber 10 folio 2." Had there been a separate balance account, one would have expected the posting reference to have been to this posting medium.

[26] In the Clayton ledgers the terms "paid" and "received" are often used instead of "debit" and "credit." The use of the terms does not necessarily indicate a cash payment or receipt.

[27] I have not found any example of the practice of entering the interest (or rent) at the beginning of the period of debt (or tenancy). Examples are present in Sir Thomas Gresham's accounts (see Peter Ramsey, "Some Tudor Merchants' Accounts," A. C. Littleton and B. S. Yamey (eds.), *Studies in the History of Accounting*, 1956, pp. 197–8). The practice is also referred to in some later treatises. Thus as one of three methods of recording interest, Alexander Malcolm wrote: "You may charge the Interest on the Account of the Borrower or Lender before it falls due; thus, upon your Lending or Borrowing, state the Interest which will be due at the Term of Payment; and after that, state every

Braund, however, was careful to make year-end adjustments, with calculations of annual profits, in his Account of Assurances which records his activity in marine insurance. At the end of each year a credit balance was carried down to the next year's account—this presumably was the estimate of probable claims against Braund on unexpired policies; and the credit balance on the old account, the profit for the year, went to profit-and-loss account. In fact, these profit figures were calculated as round sums (e.g. £500, £1,800).

This "modern" approach may be contrasted with that found in the Clayton ledgers. An important example is provided by the revenues and expenditures on postfines[28] recorded in the postfines accounts. These dealings were conducted in equal partnership with the banker, Vyner. In ledger 9, covering three years, a credit balance of over £7,000 was accumulated without any credit being taken to profit-and-loss. At the first balancing date in the next ledger a large sum was credited for profit (and, of course, an equal sum to Vyner's personal account), with a credit balance of over £1,600 remaining. No adjustment or division of profits was recorded at the next balancing date, but about nine months later the whole of credit balance was divided equally between the "general" account and Vyner's account. At the end of the ledger (about three months later) the new credit balance of £1,300 was carried forward without adjustment. A somewhat similarly erratic recording and division of profits is found in "An Accompt of the Coale Farme," again a joint venture with other persons. In the first two ledgers (covering six years) profits were calculated and divided on seven occasions, but never on a general balancing date; and between November 1672 and July 1674 no profits were divided or entered. On each division of profit a credit balance remained undivided, and there were no adjustments on the general balancing dates. There are further examples of the same procedure—or lack of it by present-day practice. In two instances it would appear that no adjustment for profit or loss was made throughout the eleven years covered by the four ledgers. These are the "Accompt of Brownsea Island," in which, among other entries, some sales of "coperas" are recorded, and the "Irish Adventure," which seems to have concerned, ***inter alia***, some iron workings in Ireland.

Merchandise accounts are not common in our ledgers, and we do not know how Braund, Clayton, or Peter Du Cane—those whose books were balanced annually—would have dealt with them on balancing dates. The difficulty of treating unfinished merchandise trading ventures was avoided in the North ledger, for this was not balanced at all; for our purposes, this is unfortunate, since there are many voyage and trading accounts in this ledger. This leaves the Hoskins, Banks, and Richard Du Cane ledgers which have some examples.

In the Hoskins ledger an important account is that of Cherbourg canvas. This account was carefully kept, with details of quantities bought and sold (in inner columns) in the ledger, amplified by more details in the entries in the journal which constitutes the first half of the volume. The detail may be explained in part by the fact that, except for a short time, Hoskins was in this branch of activity in partnership with another person. The account runs from the beginning of the ledger in 1655 to 1665. It was balanced on eleven occa-

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Term's Interest at the beginning of the Quarter, half year, or year, according as it is payable. . . ." (*A Treatise of Book-keeping or Merchants Accounts* . . . (1731), p. 50). The purpose of this method was presumably to assist in administration by recording the details of amounts due to or by the firm in the near future.

[28] Postfines refer to the fees paid to some branch of the Exchequer on the writs which were taken out in connection with "final concords" (fictitious suits used to assure the title to land, e.g. on conveyances or settlements). The obligation to pay these fees gave rise to saleable assets.

sions; yet on only two (possibly three) occasions was it balanced on a general balancing date. There was clearly no attempt to assign profits on this account accurately to the (irregular) accounting periods marked off by the closing of the profit-and-loss accounts. (Usually a balance of unsold stock was carried forward, but there is no indication of the basis of valuation.) There is a similar lack of synchronisation between the general closing of the accounts and the particular closing of the "acc° of provisions" (i.e. commissions received), another account the profits of which were shared with a partner.

The Banks ledgers do not reveal any serious attempt to ensure that the profit-and-loss account for a given period included all gains and losses as accurately as possible. A "brokeridge" account runs from 1660 to 1664 without any transfer to profit-and-loss account—there were general balancings in 1661 and 1663—until the account-space was filled. An account for coffee, calicoes, and pepper, which includes both purchases and sales, was simply carried forward at the end of ledger C, without any calculation of profit or loss. An "Acc° Hopps," with debits for receipts of hops in 1689, 1691 and 1693 and credits for disposals in 1689, 1690, 1694 and 1695, had no profit calculation at the balancing date in 1692, and was eventually closed in 1695.[29]

There is only one merchandise trading account in the Richard Du Cane ledger, for "coccenille." This account opens with a stock of six "sacs." In two of the irregular accounting periods there were sales of one and two sacks, respectively. Yet there are no entries for profit or loss at general balancing dates; the simple balance, i.e. debits less credits, was simply carried forward. It was not until after Du Cane's death that the account was closed, and the profit calculated, when his son, Peter, took over the assets and closed his father's books.

## IV

In seventeenth and eighteenth century accounting treatises, three alternative treatments of fixed assets and the income from them can be distinguished. First, the net income (receipts *less* payments other than the cost of the asset) is transferred to the profit-and-loss account, the asset being carried forward at cost. Second, the balance of the account is carried forward, that is, the original cost *plus* expenses *less* receipts is carried forward, with no entry to profit-and-loss account; that is, the excess of the total debit entries over the total credit entries is carried forward. Third, the asset is revalued and its new value is carried forward, any gain or loss being taken to profit-and-loss account.[30] These three bases of "valuation" may conveniently be called the cost, arithmetical balance, and revaluation bases, respectively. As a broad generalisation it may be said that the cost basis, or a variant of it, is the most usual in modern accounting.

All three "valuation" bases are to be found in the ledgers under discussion. There was no standard practice; and sometimes different bases were used for different assets in the same ledger, and even for the same asset at different balancing dates. As

[29] An account for horses, including quantity columns, showing both purchases and sales, was almost invariably closed simply by bringing down the difference between debits and credits. Only one entry for profit-and-loss has been found in the three ledgers.

[30] It is unusual to find all the methods mentioned in the same treatise. Malcolm's treatise (see footnote 27) refers to all three (p. 90):

"For Accounts of Houses and Ships: You may value them at the first Cost; and when that is stated on the Creditor-Side, the Difference of the Debt [debit] and Credit is Gain or Loss, arising from the Difference of the Reparations, &c. and the Rents or Freights. Or you may take the Difference of the two Sides, and state as the Balance due to you; by which means the Value of the Thing will appear less and less at every balancing, till it's nothing . . . or you may chuse to state them at another Value from Time to Time, as you think they are then really worth."

Malcolm preferred the first method: "And though these Subjects do not really keep up their Value, yet I would continue them at the first Value till they were disposed of, or lost." In this preference, Malcolm reflected the most common view in the treatises.

compared with modern practice, there was no aversion from the upward or downward revaluation of fixed assets (and the profit or loss taken to the profit-and-loss account); nor was there meticulous concern with the distinction between capital and revenue elements. In the valuation of fixed assets, as in the allocation of revenues to accounting periods, there was no consistent or rigorous application of any clear concept of periodic profit or income.

The ledgers of the two Du Canes are perhaps the most consistent in their treatment of investments in that annual revaluation of securities is almost the rule, though, in the Peter Du Cane ledger C, arithmetical balances occur in the investment in the Free British Fishery; and sometimes the previous year's valuation was repeated. The accounts for land, etc., however, simply carried forward the cost or original valuation without change; the incomes from them were dealt with in separate nominal accounts.

Revaluation also occurs frequently in the Braund ledgers. The account for the investment in Sun Fire Shares opens at £3,000 in 1758. It was then raised to £4,000 and kept at this figure until 1764 when it was "valued at" £5,000. It was successively raised to £5,500 in 1769, £6,000 in 1771 and £6,250 in 1763. The accounts for 4% Consolidated Annuities, East India Stock, and East India Bonds include both revaluations and arithmetical balances. Braund also revalued some of his landed property from time to time. For example, the estate at Hacton in Upminster was revalued downwards by almost £3,000 in 1766, and then upwards by about £160 in 1767 to produce a round asset "value" of £6,000. The account of Houses in Crane Court and Bucklers Bury in London was also raised, at intervals, from £1,500 to £2,600. The fairly numerous accounts for ships disclose examples of revaluations and also of arithmetical balances.

Banks had a substantial investment in the stock of the East India Company, and we may trace its accounting treatment in ledgers C and D (1672–84, 1684–99). When the first account-space was filled, there was a revaluation: "now is worth 210 p.c.$^o$ God be praysed, to be sold and soe by me valued." There was another revaluation when the next space was filled, though no detail is given. About three years later there was a revaluation at 260, with a transfer to a new folio though the space was not filled. About a year later the procedure was repeated, at 270, and again, at the end of 1681, at 400, though this time the space was filled. In June 1682 there was a further closing: "the said Stock 2000 per contra [i.e. £2,000 paid up] being doubled by a divident so that it now is Stock 4,000 as appears by the Comp$^a$ books—the w$^{ch}$ 4000 stock is now worth 310$^l$ . . . and soe my 4,000 Stock worth this day God be praysed £12,400"—a capital gain of £4,400, carried with obvious pleasure to profit-and-loss account. A new account was opened on another page, though the old space was not filled. There were now several purchases at prices which ranged from 204 to 360, and one lot was sold "at cost." Nevertheless, at the closing of ledger C there was no revaluation, but the arithmetical balance—after the dividends had been taken to profit-and-loss—was simply carried forward. It is interesting that in ledger C there were no revaluations on any general balancing date; the revaluations took place either when the account-space was filled or when Banks chose to do so.[31] The account in the new ledger D opens with a debit of £25,155. Nothing was done on the first balancing date. But on the second date (1688), the £4,450 nominal—there had been a big sale in 1685—was carried forward at £15,531, "heer valued as was worth, & hoope may be." However,

[31] That is, there were in effect simple arithmetical balances at balancing dates.

this was not a revaluation but an arithmetical balance after dividends had been taken to profit and loss account; that is, the profit or loss on the disposal of part of the holding was not ascertained and removed to profit-and-loss account. During the next thirty months the rest of the holding of stock was sold off, the last sale at 153¼. A heavy loss of £4,697 was incurred; this was taken to the account of "doubtfull debts," a procedure which is quite inexplicable, except that it suggests that Banks was reluctant to admit his mistake.[32]

Banks' account of "Fee Farme Rents Purchased from ye King"—rights to income acquired from the Crown—also has similar features, with the tendency to disregard balancing dates and to record unrealised profits by revaluation. There was, however, no revaluation in ledger C: the costs of successive purchases were debited, and the proceeds of sales were credited, the arithmetical balance being carried forward, on one occasion misleadingly labelled "for the cost of my present fee farme rents." At the end of the ledger the account stood at £19,121 (in debit). On the first balancing date in ledger D a profit of £8,052 was taken to profit-and-loss account. A detailed entry in the corresponding journal indicates that the new valuations were based on a capitalisation at 12 years' purchase for those rents held "in reversion" and at 20 years purchase for those "in possession." The succeeding journal entry records the profit "beinge by valuation of the reversions from the time of the disburse of my mony til now"; that is to say, no profit on sales or on capital appreciation had been calculated for a period exceeding 14 years. The next revaluation took place three years after the next balancing date. And more than two years later, another balancing date having been skipped, there was a final revaluation of the two classes of fee farm rents, at 21 and 18 years' purchase, respectively. The journal entry for the profit runs: "beinge soe much as now worth, advanced by them for my forbearance as I compute at present."

## V

The accounting treatment of bad and doubtful debts is a particular aspect of the valuation of assets. The early treatises suggest two approaches which were to some extent alternatives. First, when a debt is thought to be irrecoverable, it is written off to profit-and-loss account. Thus Alexander Malcolm: "When a Debt becomes lost by the Circumstances of the Debtor, I would not any longer encumber my Leger with that Person's Account; but discharge it by Profit and Loss." However, there is often the possibility that the debtor's circumstances might improve and that he might be able to pay his old debts. Hence in the second method the account is not written off, but is transferred (with other similar debtors' balances) to a suitably-titled account which serves as a reminder to the merchant of his dubious debts; the grouping of the several doubtful accounts in one account disencumbers the ledger of some unnecessary and space-filling accounts. Thus Malcolm continues: "Or if I do not actually discharge the Debtor; and look at the Debt only as desperate for the Time, but which may afterwards possibly be recovered; I would not discharge the Account absolutely, but only transfer it from the Debtor's Particular Account to a General Account of Desperate Debts; and there let it stand, till it's either recovered, or till I look upon it as irrecoverable; and then it's discharged out of this Account."[33]

Both methods are to be seen in our group of ledgers. The first method is best exemplified in Braund's ledger G. Here, it

[32] The same treatment was also followed for a loss on a small investment in "Ye Royall Fishery."

[33] *Op. cit.*, pp. 52–3. For other text-book discussions, see my "The Functional Development of Double-Entry Bookkeeping," *The Accountant*, vol. CIII (1940), p. 339.

will be recalled, a balance account was made up at the end of 1770. At this time debts to the total of £789 were written off against profit-and-loss account. A loose sheet of paper headed "Account of Debts w$^{ch}$ carryed to Profit & Loss 1770" lists 9 debtors' accounts with entries such as "I suppose worth nothing," or "he failed, have not proved the debt."

The second and less familiar method was adopted by Banks and Peter Du Cane. In the Banks Ledger C on the final balancing date, the balances on 24 debtors' accounts were transferred to "Doubtfull Debts," and the total of this account (£1,001) appears in the balance account among the asset balances. In the next ledger there are further transfers from other personal accounts with entries such as "owinge by them, w$^{h}$ place heer til be receaved" or "brought here til payd." (The account also includes the loss on East India stock already referred to.) The new balance of over £7,000 is carried through the ledger unchanged. The Peter Du Cane ledger C has an account "Doubtfull and Bad Debts" which opens with a debit balance of £200 brought forward. During the first year, 1754, a small sum was received from one of the doubtful debtors, and the proceeds were properly credited. In 1755 three Lisbon debts were added, "I suppose to be bad since the destruction of Lisbon by an Earthquake the 1 Nov$^{r}$ last." At the end of the year £499.12.2 was written off to profit-and-loss account, and the debit balance of £50 carried forward unchanged through 1756 and the succeeding ledger D.

The treatment in both the Banks and the Peter Du Cane ledgers does not tell us how the owners would have been able to know which debtors' accounts had been brought into the omnibus account, since the details of the debts were not carried forward on the periodic closing and reopening of the account. Presumably a separate memorandum was kept outside the ledger; but if this had been done, there would have been little point in not writing them off completely if the main purpose of the procedure, as some of the treatises suggest, was to reduce the number of dead accounts cluttering up the ledger and adding to the labour of balancing.[34] Whatever the answer may be, the procedure nevertheless suggests, particularly in the Banks ledgers, an attitude to profit calculation and asset statement quite different from that now governing accounting practice.

[34] The segregation of records of doubtful debtors outside the ledger is illustrated in James Peele's *Pathe-waye to perfectnes, in th' accomptes of Debitour, and Creditour* . . . (1569). In the illustrative example, six "Doutfull detters" are listed at the end of the opening inventory; but the amounts owing by them are not included in the arithmetic of the inventory, nor are accounts opened for them in the ensuing ledger—according to the text, they are "set aparte, to be kept in minde, but reserved out of thaccompte." When some of the debtors make payments, the entries in the inventory are suitably annotated; in the ledger, the profit-and-loss account is credited in the absence of the personal accounts.

# A SIMPLIFIED STATISTICAL TECHNIQUE FOR USE IN VERIFYING ACCOUNTS RECEIVABLE

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In an attempt to promote more general familiarity with statistical approaches to testing accounts receivable, this article is designed to reduce to a minimum the statistical background necessary for an understanding of an application of statistical sampling and to substitute prepared tables for terms and formulas so that only basic mathematical processes need be used by the accountant. It must be pointed out that when the statistical precision is decreased by the use of general terms and estimates, the reliability of the values is somewhat reduced from what would be derived from an exact computation similar to the results obtained from using a slide rule as opposed to a calculator. Although exact mathematical computations are desirable, they are not necessary to this technique, since personal estimations made by the accountant are still involved.

*Audit Considerations and Decisions*

The purpose of an audit of accounts receivable or any other asset is to prove to the auditor's satisfaction the (1) existence, (2) ownership, (3) valuation, (4) accuracy of record, and (5) fairness of presentation of the account. The physical existence of the asset is usually witnessed, at least on a test basis, by the auditor. Then supplemental evidence is examined to the extent deemed necessary. Ownership by the client at financial statement date must also be carefully determined and valuation should be in accordance with generally accepted accounting principles consistently applied. Any inaccuracies in the records are noted, corrected if material, and brought to the attention of management which has primary responsibility for the accounting records. Finally, formal presentation must be fair and any relevant information disclosed. The extent of proof desired in any instance depends primarily upon the materiality of the amount involved and the relative risk of loss.

With reference to the verification of accounts receivable, the formula and procedure that follow force the auditor to concentrate closely on materiality by stating a limit as to what he considers material or immaterial. Also, he must decide objectively whether the observed internal control is weak, fair, good, or excellent, as this alters the ultimate sample size.

In determining an adequate sample size of customer accounts to be verified, the accountant will need to obtain some basic information from his client's records: (1) the total amount of accounts receivable to be verified, (2) the number of customer accounts comprising the total, and (3) the dollar range of the individual accounts (the dollar difference between the highest and the lowest single customer account balance). This information may or may not be readily available. Close approximations of (2) and (3) above may be satisfactory whenever the number of accounts is very large.

With the above information in mind, certain decisions are made by the accountant. These include: *The degree of accuracy*

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*(or proof) desired* and *the precision of measurement or the maximum error to be tolerated*. Experience with confirmation return results must also be considered.

*The degree of accuracy desired* from the sample is directly related to the accountant's evaluation of his client's internal control of accounts receivable. If he determines that the internal control is poor, or less than desirable, he may insist upon a high degree of accuracy from his ultimate sample. This means that the accountant must be more exacting in his requirements for proof of the genuineness of both the customer accounts and their total whenever internal control is weak. If internal control appears exceptionally good he can afford to reduce his tests or the degree of accuracy required from the sample. The effect of varying degrees of accuracy upon the sample size will become clearer with later illustrations. Varying degrees of accuracy may be introduced by referring to Exhibit 1—DESIRED DEGREE OF ACCURACY. Although this table is only partial, ranging from 80.0 to 99.95 per cent, it should be adequate in allowing for differences in the effectiveness of internal control from one organization to another.

*EXHIBIT 1*

*DESIRED DEGREE OF ACCURACY*

(Based upon an evaluation of internal control)

*Degrees of Accuracy in Sample*

| *Per Cent* | *Values for "A" in formula* |
|---|---|
| 80.0 | 1.28 |
| 85.0 | 1.44 |
| 90.0 | 1.65 |
| 92.0 | 1.75 |
| 94.0 | 1.88 |
| 96.0 | 2.05 |
| 98.0 | 2.33 |
| 99.0 | 2.58 |
| 99.5 | 2.81 |
| 99.95 | 3.5 |

*Note:* The scale above runs from excellent internal control (80 per cent accuracy) to poor internal control (99.95 per cent accuracy). For example, in a sample of 10,000 the accountant would allow for only 5 errors due to probability using 99.95 per cent accuracy.

*Source:* Calculated from a normal curve table, "Areas Under the Normal Curve," *Applied General Statistics*, Croxton and Cowden, p. 746.

*The precision of measurement or maximum error to be tolerated* must be determined beforehand, since reducing the maximum error in a statistical sample to zero (or using maximum precision) would necessitate making a complete analysis of all the customer accounts. Because any sampling plan is based upon less than 100 per cent precision or accuracy, a statistical sample, like most other measuring instruments, cannot indicate any value of the population (all the customer accounts, in this case) exactly. For example, a yardstick may be used to measure the length of a bookcase adequately, but it will not produce a perfectly accurate measurement. In the same sense, the accountant must be ready to accept some inaccuracies due to a measurement based upon statistical sampling. In fact, he already accepts them with his present sampling procedures, and without knowing their size or magnitude. Therefore, in statistically determining a sample size to verify accounts receivable, the accountant should decide upon a certain tolerance (range of possible error) which he feels would not be material. This tolerance is stated as plus or minus a certain amount (e.g., ±$1,000).

After the correct sample size is determined by the formula, Exhibit 2—CORRECTION FACTORS FOR SMALL POPULATIONS is consulted to reduce the sample size because the total number of accounts is limited (finite) rather than unlimited (infinite). For example, if the sample size arrived at by solving the formula is 10 per cent of the total number of accounts, the sample size should be reduced by multiplying it by .95 (from Exhibit 2). Perhaps the following illustration outside the accounting field will make this clearer:

If you were asked to draw an ace from an ordinary pack of playing cards, your chances of succeeding would be 4 in 52, or 4/52. If, after your first unsuccessful draw, you tried again *without replacing the drawn card*, your chances would be

slightly better or 4 in 51. Because the deck of cards is limited (52) it is important to note changes in probabilities as more cards are drawn and not replaced. Exhibit 2 is designed to accomplish the same thing when the percentage of accounts determined by the formula is 10 per cent or more of the total number of customer accounts.

Firm experience with circularization results should also be considered by the accountant. This particular statistical application is designed for positive and negative confirmations, depending upon the circumstances of a particular audit, combined with verification of the original charges and subsequent payments of some accounts not circularized. Generally, if a great number of the customer accounts are of low dollar value, as in a retail establishment, negative confirmations may be used effectively. Positive confirmations may be used in confirming customer accounts for a manufacturer whenever there is a limited number of relatively large accounts. They may also be used to verify large account balances in either instance. It has been the experience of public accounting firms in general that not all of their positive or negative confirmation requests are returned or reviewed by their client's customers even after follow-up procedures. Therefore, a return percentage of less than 100 per cent, based upon the firm's experience with a particular client, must be anticipated.

*EXHIBIT 2*

*CORRECTION FACTORS FOR SMALL POPULATIONS*

(Or relatively few customer accounts)

To be used only when the predetermined sample size amounts to 10 per cent or more of the total number of customer accounts (some authors recommend use when the sample size is 5 per cent or more).

| *Sample Size as % of population* | *Correction Factor* |
|---|---|
| 10 | .95 |
| 15 | .93 |
| 20 | .90 |
| 25 | .87 |
| 30 | .84 |
| 35 | .81 |
| 40 | .78 |
| 45 | .74 |
| 50 | .71 |
| 55 | .67 |
| 60 | .64 |
| 65 | .59 |
| 70 | .55 |
| 75 | .50 |
| 80 | .45 |
| 85 | .39 |
| 90 | .32 |
| 95 | .22 |
| 99 | .10 |

100 or more—increase tolerance (AAT) or reduce range* ($\frac{1}{4}$ R) or both. AAT used here and $\frac{1}{4}$ R would indicate 100 per cent circularization.

* The range may be reduced by circularizing all large account balances and leaving sampling procedures to the remaining smaller accounts.

*Source:* Calculated from

$$\sqrt{\frac{N-n}{N-1}}$$

factor to adjust for relatively small (finite) populations. Using $N=100$ as an arbitrary factor and solving to precalculate the correction factors, the reader should see *Statistics for Economics and Business*, by Paden and Lindquist, pp. 146–147.

## *Sampling Considerations*

Errors due to chance, or so-called sampling errors, can be reduced to any desired degree merely by increasing the size of the sample. Errors in sampling could be completely eliminated by verifying every customer account balance, but this would not be sampling. Therefore, in determining an adequate sample size, the variability of the items (the dollar range) of the population must be considered. For example, if the accountant knew that all the customer accounts were identical, a sample of one item would be sufficient for a precise indication of the total of all the accounts. The more variable the accounts with respect to dollar balances, other things remaining equal, the larger the sample required. Another consideration in sampling is the number of customer accounts from which the sample is to be taken. In order to achieve the same degree of accuracy a larger sample is usually required from a larger population (the total number of

customer accounts). However, when the sample itself is large and nevertheless constitutes only a small percentage of the total number of customer accounts, this consideration is of negligible importance.

In order to refrain from choosing a biased sample, a statistician commonly relies upon random sampling procedures. These procedures may be followed by an accountant in various ways:

*Reference to random decimal digit tables.* In many current statistical textbooks, and other statistical publications on sampling, a table of random decimal digits may be found, together with adequate instruction in the use of random digit tables in selecting samples. Therefore, this area is not discussed here.

*Restricted sampling methods.* Probably one of the easiest statistical sampling methods available to an accountant in sampling accounts receivable, would be a systematic sampling plan, due to the nature in which customer accounts are kept and controlled. Systematic sampling consists of using every Kth item of the population in the sample. For example, if the population consists of 1,000 customer accounts and the accountant determined the sample size to be 100, he might start with the 1st to the 10th account and include every 10th account from there on in his sample until he reaches a total of 100. Another method available is cluster sampling. Here, blocks or clusters of accounts may be included in the sample. For example, as in the past illustration of 1,000 customer accounts with 100 as the sample size, the accountant may select clusters of 10 accounts, each of which is spotted throughout the entire population.

## *The Sampling Formula*

The simplified formula for predetermining the sample size is

$$n=\left[\frac{1/4R(A)}{AAT}\right]^2;$$

$n$ = the determined sample size, $R$ = the range of values represented by the customer accounts (the difference between the highest and the lowest dollar balances), and $\frac{1}{4}R$ is used as an estimate of the population standard deviation, or $\sigma$ (sigma); $AAT$ represents the average account tolerance determined by taking the maximum error to be tolerated by the sample (as discussed above) and dividing this amount by the total number of customer accounts in order to arrive at an average tolerance for each account, or *A*verage *A*ccount *T*olerance; $A$ in the formula refers to the desired degree of accuracy from the sample (Exhibit 1) determined by the accountant's observation of internal control.[1]

Several illustrations are now presented showing applications of the simplified sampling formula in determining $n$ (the sample size). These illustrations are not designed to cover the multitude of variations that may confront an accountant in actual practice, but they do indicate the technique to be followed.

## *Illustration 1—A Medium-Sized Manufacturer*

Step 1—Facts determined by the accountant:

a. Accounts receivable control, per books = $175,000.
b. Number of customer accounts = 500.
c. Range of individual account balances = $400 (from $200, the lowest balance, to $600, the highest account balance). Therefore, $\frac{1}{4}R$ (the dollar range) = $100.

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[1] The formula presented here is a simplification of the statistical sampling formula

$$\frac{x}{\sigma}=\frac{\bar{X}-\bar{X}_P}{\sigma_{\bar{X}}}$$

times a finite population correction factor

$$\sqrt{\frac{N-n}{N-1}}$$

used to correct a sampling statistic taken from a limited population. The

$$\frac{x}{\sigma}=\frac{\bar{X}-\bar{X}_P}{\sigma_{\bar{X}}}$$

formula is taken from *Applied General Statistics*, by Croxton and Cowden, page 642, solved for $n$ (sample size). The finite correction factor is explained in most elementary statistics texts; *Statistics for Economics and Business*, by Paden and Lindquist, page 146–147, is one. It may also be noted by those familiar with statistics that $\frac{1}{4}$ R is used in the presentation above as a simplified conservative estimate of the population standard deviation allowing for error due to variations from a perfectly normal curve in which $\frac{1}{4}$ R would approximate the standard deviation.

Step 2—Decision made by the accountant:

a. Degree of accuracy desired from the sample based upon an estimate of very good internal control = 80 per cent or 1.28 taken from Exhibit 1.

b. Maximum error to be tolerated or precision of the measurement = total tolerance of ±$4,000. Average Account Tolerance (AAT) is then determined by dividing $4,000 by 500 (the number of customer accounts) = 8.

Step 3—Solve equation for $n$[2]

$$n = \left[\frac{1.4R(A)}{AAT}\right]^2 = \left[\frac{100(1.28)}{8}\right]^2 = \left[\frac{128}{8}\right]^2$$
$$= 16^2 = 256.$$

Step 4—Compare the formula results (256) with the total number of accounts and refer to Exhibit 2. Notice in Exhibit 2 that the sample size derived from the formula may be more than 100 per cent of all of the customer accounts. If this is the case, the accountant may do several things, according to the information in Exhibit 2: (1) increase the acceptable tolerance (however, the accountant may feel that an additional increase in the tolerance would be material with regard to the accounts receivable balance and the other assets), or (2) reduce the total dollar range by circularizing 100 per cent of the large account balances with positive confirmations and sampling from the remaining smaller accounts, or (3) both (1) and (2) above.

With the number of accounts (256) found by solving the formula, the accountant determines that the sample size is about 50 per cent (256 ÷ 500) of the total number of accounts. Again referring to Exhibit 2, the correction factor for a sample size of 50 per cent is .71. Therefore, 256 accounts times .71 = 182 accounts, or the sample size necessary to prove the total of the accounts receivable control balance of $175,000, plus or minus $4,000, with 80 per cent accuracy. These 182 customer accounts may be verified in a combination of ways familiar to the accountant:

(1) Positive confirmations.
(2) Negative confirmations.
(3) Proving the original charges to the accounts by reviewing authentic sales invoices, shipping records, inventory records, etc.
(4) Proving subsequent payment of the accounts.

In most instances a combination of all the above four steps in verifying the account balances may be used, the proportions depending upon the individual accountant. As long as the 182 account balances are verified to the accountant's satisfaction the statistical precision is not reduced by alternative approaches.

Step 5—Firm experience with confirmation results must now be taken into consideration. As mentioned earlier in this article, less than 100 per cent results can be expected with confirmation replies, even after follow-up procedures. Assuming that the accountant's experience with similar manufacturing firms indicates that about 90 per cent of all positive confirmations are returned, and that he desires to send 50 positive confirmations (out of the 182 accounts to be verified), he would send 56 positive confirmations (50 ÷ .90) and anticipate an ultimate return of 50. If the accountant sends negative confirmations, experience indicates that a smaller percentage has actually been reviewed and that he would therefore apply the same technique used with positive confirmations but divide the chosen number of accounts to be verified by a much smaller percentage (say, 30, 40, or 50 per cent).

After the confirmations have been reviewed and all bookkeeping errors have been found, analyzed, and corrected, the average customer account balance is computed for at least 182 accounts. This average balance must then be multiplied by 50 (the total number of accounts). The grand total amount should fall between $171,000 and $179,000, thus verifying the control account of $175,000 ± $4,000 with 80 per cent accuracy. If the total obtained in this manner falls outside the tolerance limits of $171,000 and $179,000, more error exists than the accountant was first willing to accept as immaterial, and additional procedures must be applied. And it is possible that more tolerance may be accepted. This technique allows for minor errors that the accountant may find in the circularized accounts. As long as the corrected average amount of all the accounts verified multiplied by the total number of accounts falls within the acceptable tolerance range, the control account is assumed correct at $175,000 and there exists no material difference between the detail and the control account balance.

## *Illustration 1—Modified*

Referring to the data assumed in Illustration 1, suppose that a new accountant was given the assignment of verifying the customer accounts of the same manufac-

[2] Note that dollar signs are omitted in solving the formula.

turer the following year and that he was undecided as to what relative dollar amount was considered immaterial in the past.

Upon examination of last year's working papers he reviews the same data presented in Steps 1–3 (above), with the exception of the tolerance. He then works the simplified formula solved for AAT,

$$AAT = \frac{1/4R(A)}{\sqrt{n}} = \frac{100(1.28)}{\sqrt{256}} = \frac{128}{16} = 8,$$

and 8 times 500 (the number of customer accounts) = 4,000, or plus or minus \$4,000.[3] Notice in this example that the new accountant knew the original sample size (n) before it was reduced by the correction factor for relatively small populations. However, this correction factor would be negligible in many audit cases in which the sample size is small in relation to the total number of customer accounts. A similar procedure may be followed in order to see how closely the accounts receivable control of a client was verified in the past when statistical procedures were not used by the accountant to determine the sample size.

### *Illustration 2—A Large Retailing Firm*

Another illustration is presented to show how stratification of the previously discussed sampling technique enables the accountant to maintain precision and still reduce the sample size.

Stratifying the customer accounts means (1) dividing the initial number of accounts into groups of more homogeneous dollar ranges and (2) selecting random samples from each group or stratum. The more homogeneous the dollar ranges are within each stratum, the smaller the sample size necessary to verify the control account balance to a given degree of precision. An example of a large retailing firm is now presented.

Step 1—Facts determined by the accountant:

a. Accounts receivable control per books = \$640,000.
b. Number of customer accounts = 20,000.
c. Range of individual account balances = \$1,000 (from zero, the lowest account balance, to \$1,000, the highest account balance). Therefore, $\frac{1}{4}R = \$250$.

Step 2—Decisions made by the accountant:

a. Degree of accuracy desired from the sample based upon an estimate of internal control = 94 per cent or 1.88 (from Exhibit 1). In this example the accountant desires more accuracy in the sample indicating weaker internal control and the possibility of clerical errors. With 94 per cent accuracy, he allows for only 6 errors in 100 due to probability or chance.
b. Maximum error to be tolerated = ± 12,800, or 2 per cent of the total dollar balance of the control account.

Step 3—Solve equation for $n$.

$$n = \left[\frac{1/4R(A)}{AAT}\right]^2 = \left[\frac{250(1.88)}{.64}\right]^2 = \left[\frac{470}{.64}\right]^2$$
$$= 733^2 = 537{,}289.$$

Obviously a simple random sample with ±2 per cent tolerance taken from the customer accounts of this retailer will not be adequate because the sample size so determined is far in excess of the total number of accounts, 20,000. A demonstration is now given in order to indicate how a stratified sample will reduce the sample size necessary to verify the same control account balance with the same high degree of accuracy (94 per cent) and low tolerance (±2 per cent).

Additional information was obtained by the accountant with regard to the details of the accounts, and then the accounts were arranged in strata as follows:

| *Range of Account Balances* | *Approximate No. of Accounts* | *Total Dollars* |
|---|---|---|
| \$ 0 to \$ 50 | 15,000 | \$150,000 |
| 51 to 100 | 4,000 | 230,000 |
| 101 to 200 | 600 | 90,000 |
| 201 to 400 | 200 | 70,000 |
| 401 to 1,000 | 200 | 100,000 |
| | 20,000 | \$640,000 |

The simplified formula was applied to each stratum of the above data, with the following results:

[3] Note that the dollar sign was added.

| Range | 1/4 R | No. of Accounts | Total Dollars | Tolerance of = 2% | AAT | Sample Size (n) |
|---|---|---|---|---|---|---|
| $ 0 to $ 50 | 12.5 | 15,000 | $150,000 | ±$3,000 | .2 | 13,806 |
| 51 to 100 | 12.5 | 4,000 | 230,000 | ± 4,600 | 1.15 | 516 |
| 101 to 200 | 25.0 | 600 | 90,000 | ± 1,800 | 3.0 | 552 |
| 201 to 400 | 50.0 | 200 | 70,000 | ± 1,400 | 7.0 | 180 |
| 401 to 1,000 | 150.0 | 200 | 100,000 | ± 2,000 | 10.0 | 200* |
| | | 20,000 | $640,000 | ±12,800 | | 15,254 |

* Formula amount was 795 so a maximum of 200 (total number of accounts in this stratum) is used.

By stratifying the account balances the determined sample size was reduced from 537,289 to 15,254, but even this amount may still be too large to be useful.

To overcome an excessive sample size the accountant has two alternatives (assuming there is no change in his evaluation of internal control): (1) further layering or more strata (which may be impractical), or (2) a decrease in the degree of precision expected from the statistical sample. The accountant concludes that he would increase the acceptable tolerance and try again for a more realistic sample size. The tolerance is increased or the precision of the measurement is reduced to $640,000 ±$19,200 (±3 per cent). The formula is again applied to each stratum, with the result tabulated below. The sample size determined with a tolerance of plus or minus $19,200 is 6,706, and this is used in the analysis.

Step 4—The accountant must then use Exhibit 2 to reduce the determined sample size, which represents about 30 per cent of all of the accounts (.84 is the appropriate correction factor). Therefore, 6,706 times .84 = 5,633 or about 5,600. Before continuing, however, the accountant must consider one more factor.

Step 5—When using confirmations, a return result of less than 100 per cent, which would increase the sample size, must be anticipated. Positive confirmations may be sent to the accounts with large dollar balances and negative confirmations may be used for the bulk of the accounts circularized. Not all of the 5,600 accounts, however, need be circularized; they must all be verified but alternative procedures may be used on some portion of the accounts.

*Proof of Control Balance*

An average corrected account balance should be determined for about 5,600 customer accounts. Then this amount must be multiplied by 20,000 to arrive at an estimate of the accounts receivable control balance. The results of this calculation should fall between $620,800 and $659,200 in order to prove the genuineness of the control account balance of $640,000 plus or minus $19,200.

Practically, it may be too burdensome to stratify the accounts as has been done in this illustration. If this is true, the only way to prove the control balance without accepting a great range of error would be 100 per cent circularization. It was seen that even allowing for a ±3 per cent error in the estimate of the control account balance and using five strata, about 30 per cent verification was still required for the sample to be statistically adequate. Physical stratification of the accounts is not always necessary; estimated stratification may be adequate. Also, the number of accounts to be included in the sample from each strata may be approximated. For example, the unadjusted sample calls for over 6,100 accounts with less than $50 balance. Adjusting this amount times the correction factor from Exhibit 2 (.84) results in about 5,000 accounts in the category or about one-third of the total 15,000. These may

| Range | 1/4 R | No. of Accounts | Total Dollars | Tolerance of ±3% | AAT | Sample Size (n) |
|---|---|---|---|---|---|---|
| $ 0 to $ 50 | 12.5 | 15,000 | $150,000 | ±$4,500 | .3 | 6,131 |
| 51 to 100 | 12.5 | 4,000 | 230,000 | ± 6,900 | 1.725 | 185 |
| 101 to 200 | 25.0 | 600 | 90,000 | ± 2,700 | 4.5 | 109 |
| 201 to 400 | 50.0 | 200 | 70,000 | ± 2,100 | 10.5 | 81 |
| 401 to 1,000 | 150.0 | 200 | 100,000 | ± 3,000 | 15.0 | 200* |
| | | 20,000 | $640,000 | ±19,200 | | 6,706 |

* Formula amount was 353 so a maximum of 200 (total number of accounts in this stratum) is used.

be chosen at random, in clusters of 100, for example.

*Conclusion*

Statistical sampling has been presented in this report as a supplemental tool to aid the accountant in determining an adequate sample size of customer accounts necessary to verify accounts receivable control in advance of circularization. Statistical detail has been reduced to a minimum in order to present the material in a manner that may be understood by the non-statistician. Variations of this technique may be devised to allow for more accuracy, especially with regard to substituting a better estimate of the population standard deviation ($\sigma$) for $\frac{1}{4}$ R. However, doing this would generally call for some analysis of a sample of the customer accounts before the desired size could be determined.

Determining an adequate sample size requires a careful review of certain data by the accountant. He must consider total variability in account balances (the dollar range), maximum error to be tolerated (precision), and also the desired degree of accuracy from the sample based upon his judgment of internal control. The accountant's first choice would undoubtedly be as small a sample as possible, one with 100 per cent precision and no tolerance. But 100 per cent precision may be achieved only by a complete circularization and review of all of the account balances. However, some positive conclusions have been reached that may enable the accountant to estimate more accurately an adequate sample size. These are:

1. Some error with sampling must be expected. Sampling, like any other measuring instrument, is not perfect; a certain range of error must be, and is, tolerated by the accountant. This is similar to the "go, no go" gauge used in inspection. The larger the sample size with respect to the total number of accounts, the smaller the error or tolerance, and the greater the precision.

2. Variability in account balances must be given sufficient attention. Generally, the larger the dollar range, the larger the sample size must be if it is to reflect a desired accuracy. Large variances or ranges can be partially reduced by stratification or by separating the large accounts from the remainder and performing a 100 per cent positive circularization on them.

3. Internal control influences the size of an adequate sample. The better the internal control within a client's organization, the smaller the sample size necessary to prove the control account balance (see Exhibit 1), always assuming no changes in the tolerance or the dollar range of accounts.

4. Individual public accounting firm experience with confirmation request returns must be given consideration. Even after follow-up procedures, not all positive confirmations are returned and even fewer negative confirmations are reviewed. Additional confirmations may be added to the estimated sample size for extra security. If more than the estimated number of positive confirmations are returned, for example, any extras may be omitted or used in the complete analysis.

5. Mathematical detail is not mandatory to this technique because estimations regarding internal control and circularization returns that enter into a statistically determined sample size must be made by the accountant. And a "chain" of calculations is only as good as its weakest link.

# RE-EXAMINATION OF BASES AND OPPORTUNITIES FOR APPLYING ACCOUNTING JUDGMENT*

WILLIAM L. CAMPFIELD

PROFESSIONAL accountants, particularly those practicing as public accountants, have long prided themselves upon being engaged in a profession in which the exercise of trained judgment is of paramount importance. Through the years as American business and industry developed elemental, and often crude, statistical and accounting methods and practices into the highly scientific and standardized practices witnessed today, the professional accountant's trained objective examinations and reports upon financial transactions were major instruments used by managements in evaluating the effectiveness of past operations.

Today there is a growing belief among informed students of the dynamics of modern business enterprise that the conventional accounting judgments and opinions, while still useful in lesser degree, are no longer major instrumentalities for use by business managements in planning and directing their enterprises along long term profitable channels. There is also a fairly widely held belief among the public at large that accountants are merely skilled artisans whose judgments and opinions are the result of intuition and carefully memorized rules and dicta.

The writer believes there is a definite need for professional accountants to be in closer harmony regarding the elements comprising well reasoned judgments and opinions, and to demonstrate conclusively that accountants are capable of rendering constructive judgments, particularly as they affect major aspects of management planning and control for long range profitable enterprise. Further, there is need for more convincing evidence that professional accountants are, in fact, dealing with important problems and issues on the high intellectual plane expected of a true profession. The foregoing point up the desirability of professional accountants undergoing a rigorous self-examination and probing before continuing to assume that their professional judgments and opinions are of the type and quality to merit full approbation by an informed public.

The balance of this paper is devoted to ideas which the writer hopes may stimulate other accountants to think more intensely about some of the neglected conceptual aspects of their professional future. The presentation is in three parts, namely: (1) a capsule re-orientation to the essential elements and stages involved in the judgment or decision forming process, (2) a description of some of the major non-accounting areas in which qualitative accounting-type judgments can materially aid a management in planning and profit control, and (3) a delineation of some of the areas of education and training which require added emphasis in developing professional accountants for expanded judgmental roles.

It is not deemed essential to the development of the theme of this paper to discourse on the need for further sharpening of the accountant's judgment with respect to his conventional financial statement examination and the professional opinion thereon. Present accounting literature in this regard is doubtless more than adequate.

* The views expressed are those of the writer and do not necessarily reflect policy of the U. S. Army Audit Agency with which he is associated.

*Essentials of the Judgment Forming Process*

Thinking starts with a problem which must be solved. In a static society where there are no difficulties or requirements for resolving problematic situations there would be no need for thinking. Actions would be purely instinctive and mechanical. Thinking requires a selection of the essential factors in a problematic matter needing resolution and the interrelating of these factors to one another as well as determining their meaning for the problem to be solved. Hence, finding the pertinent factors in a problem situation is the substantive beginning of thinking.

In order to effectively solve problems, an individual must draw upon his past experiences, either direct or vicarious. The related experiences which he has stored in his mind are organized into a system of ideas and beliefs which control his outlook and opinions concerning questions and problems to which the experiences are related. This organized system of thought is generally referred to as "frames of reference." An individual's selection of pertinent data from among his stored-up experiences is governed by a point of view or mental attitudes. The latter not only influence the interpretation of data or events but, before the stage of interpretation is reached, determine which facts shall be selected and which shall be rejected or ignored.

The importance of the selective activity of the mind should be clearly understood by each individual who strives to exercise sound judgments. There is a widespread notion that an adult person can always discern facts that are exposed to observation if he will only take the time to look. Thus, we often hear the remark "the facts are quite obvious." This belief is illusory because a mental bias can operate to prevent a person from either ascertaining the relevant facts or from appropriately interrelating facts and drawing logical conclusions therefrom.

Often in the administration of the day to day activities of life, a person must make quick decisions without time to concentrate on the formal apparatus of judgment formation. In this regard, it is especially important that the individual be conditioned through prior training and experience in making wise judgments. In consequence, his directed intelligence permits him to make a rapid selection of the stored-up knowledge or experience appropriate to solution of the problem at hand or the decision to be made.

There is room in practical life for both quick, intuitive type thinking and the careful step-by-step reasoning process. Judicious coordination of the two will benefit each kind of thinking. This coordination is usually accomplished within the framework of a technical method, the so called scientific method. The latter purports to minimize the incidence of subjective influences which in absence of methodic analysis of facts would becloud the thinking process.

Practically all schools of thought emphasize that, following scientific ideology, a person is likely to achieve a soundly reasoned judgment or decision if he observes the following points or steps in reaching a decision:

1. *A definite problem or situation requiring decision is recognized.*
2. *A scale of priority for decisions is established.* This will assure that efforts will be first directed toward the most important issues, problems, etc.
3. *The problem or issue is given precise definition.* This step may be thought of in the light of the question, "Specifically, what is the problem?" Precise definition will permit separation of individual problems from a complex of problems and thus assure that appropriate attention can be devoted to each individual situation.
4. *A tentative theory of solution is developed.* This sequence requires that the judger state the problem or issue in terms of the facts or data required for a solution. From this is developed a theory or theories re-

garding ways to proceed and things to do in order to achieve a solution. If more than one theory or solution is developed, then a choice must be made of the one estimated to produce the most desirable solution.

5. *A fixed sequence of basic acts to be performed is established.*
6. *A tentative solution (or solutions) is developed.* This step involves the estimation of the consequences (gain-loss factors) of the various alternative probable results set out under the tentative theory or theories. Also embraced in this stage is a plan for a course of action if the tentative solution proves unworkable or impracticable.
7. *Test or confirmation is made of the tentative solution.* An initial experimentation should give a first insight as to whether the tentative solution reasonably resolves the problem or issue under study. If the initial experiment is successful, further experimentation under the same conditions will confirm whether the solution is the best one under the circumstances. In absence of confirmation of the soundness of the tentative solution, then tryout of alternative solutions or adoption of other plans must be undertaken.

It is not to be inferred from the foregoing description that every judgment is formed through tracing the particular order or number of stages discussed. The steps may be broken down into further sub-steps or they may appear in actual practice to be a single continuous step. The latter is especially true in the case of a person of wide and diversified experience who may give every appearance of making decisions or judgments intuitively.

We must constantly remind ourselves that the judgmental process is a highly intangible thing and even in simple cases is so subtle in character as to defy precise categorization into formal stages or sequences.

Notwithstanding, an approximate analysis of the process by which judgments are formed should be quite useful to accountants in better preparing themselves for specific assignments in areas in which conventional accounting judgments are required. Such knowledge is useful as well in planning the long range kind of training and experience which will equip them for rendering sound judgments in business and economic areas that are normally deemed non-accounting.

### *Non-Accounting Areas for Application of Accounting-Oriented Judgments*

It is axiomatic that the efficiency of modern business operations depends in large measure on the degree to which a management has brought its enterprise into a state of continuous advance planning, forward programming, and in-progress evaluation and adjustment of performance.

Trained and skilled professional accountants have acquired knowledge and experience vis-à-vis a wide and diversified range of economic transactions and business viewpoints. Through enlarging the horizons of their thinking and acquisition of minimal added knowledge of managerial responsibilities and tolerances, they should be in position to form the kinds of broad-gauged judgments and supply the kinds of counsel to business managements which will materially assist the latter in assuring that their enterprise resources are properly geared for taking advantage of changing environmental conditions.

With respect to assisting business managements in devising and activating a well conceived and interlaced framework of long range and short term plans, the professional accountant can bring his knowledge and techniques into service in at least three specific areas. They are: (1) assisting in the construction of the framework or mold for enterprise planning, (2) aiding in the establishment of the media, methods, and procedures by which flexible, constructive planning is performed and evaluated, and (3) selectively testing and analyzing relevant basic data and screening alternative plans prior to final decision making by top management.

The well versed accountant can be par-

ticularly useful in synthesizing accounting, economic, and other statistical data which top management can utilize in constructing the basic enterprise policy and mission framework. In case of a fairly new enterprise or an established one which proposes to materially alter its corporate image, the accountant's initial contribution could be the systematic development of data regarding prospective demand for products or services of the industry as a whole, factors affecting key supply sources, trends, and changes in competitive conditions within the industry, and pro forma estimates of the relative standing of the enterprise with respect to share of markets, cost position, and competitive strength. Since the modern concept of planning is tied to the notion of influencing events to happen that otherwise would not occur, it is obvious that the accountant who furnishes substantial assistance to management in constructing the matrix for long range planning will have made an important contribution toward giving the enterprise greater influence over its own destiny.

A second area of policy making and planning in which the accountant can extend his judgmental usefulness is that of assisting management in establishing an enterprise environment and adequate mechanisms which insure continuous, effective planning, concurrent review and analysis of such planning, and timely adjustment and synthesis of plans to take advantage of technological, economic, and social changes and innovations.

The accountant might well aid a management in creating an orderly system and allocation of responsibility down the line for design of plans, progress review of plans in action, and post-action evaluation of the effectiveness of plans. The over-all planning schemata should provide appropriate distinction, both as to content and responsibility, between the substantive planning involving broad enterprise policies, missions, and goals, and the procedural planning associated with programming and scheduling specific projects and work detail. Important elements to be observed by the accountant in this regard are assurance that each key individual in the organization is assigned a specific time-phased part of planning, clear cut authority commensurate with responsibility is delegated to each such individual, and each designated individual is held to strict accountability for accomplishment of assigned planning.

It is also pertinent to note that a broadly experienced accountant should be in position to furnish valuable counsel and assistance to top management in providing leadership, planning "know how," and supervisory control of planning activities at lower management echelons. The accountant's conventional audit of a large scale enterprise requires considerable advance planning. Advance determinations must be made with respect to scope of coverage, timing of examinations, staffing requirements, and individual assignments for a rather large group of staff members. Also, supervision and control of widely spread work and the evaluation of actual work in the light of management significance must be carefully planned in advance. Accordingly, the accountant primarily responsible for planning and controlling such audits gains an experience which makes him a strong choice to counsel and assist a management in designing, improving, and controlling the over-all enterprise planning system and methods.

A third significant area of enterprise policy making and planning in which the accountant has an opportunity for providing seasoned judgment is that of counselling and aiding in the development and/or improvement of the actual enterprise decision making process. Much has been written in recent years about the nature of decision making and the modern scientific methods available to management for making decisions. Notwithstanding, the writer believes that the element of mature

judgment so essential to qualitative decision has not been stressed sufficiently in the plethora of literature. Moreover, the frequent emphasis on the mathematical or statistical aspects of decision making has influenced an inordinate obsession with "decision by formula." In these circumstances, the well rounded accountant could easily serve as the catalyst in the management effort toward improving the general quality of enterprise decisions.

The accountant can be especially helpful to top management in assuring that the planning system is producing acceptable alternative action plans. He can perform selective advance screening or analysis of submitted plans in order to insure that the alternative courses of action transmitted to top management for final decision have been carefully reviewed and evaluated by responsible subordinate personnel. It is taken that, in making his review, the accountant will first satisfy himself that management has established criteria or predetermined scales of preference or desirability with respect to consequences or outcomes of alternative plans or strategies. Otherwise, it will be necessary that the accountant assist or counsel management in constructing scales of preference in order to effectively appraise the relative merits of various proposed plans. The accountant's independent and objective analysis and review in the foregoing connection should help assure top management that all worthwhile alternative courses of action receive adequate advance review and consideration prior to submission to top management for final review and decision.

In summarizing discussion of the accountant's opportunity for expanding the application of his informed judgment to the area of enterprise policy making and planning, it is well to remind ourselves that an enterprise management has the difficult, but compulsive, responsibility of anticipating the shape and content of future events which will affect the enterprise. Moreover, management must exert every informed effort to influence the environment in which the enterprise operates—not merely adapt the enterprise to the existing environment.

Perhaps the progressive accountant's greatest opportunity for enhancing his stature as a purveyor of high quality judgment might well lie in the direction of furnishing an enterprise management with adequate assurance that it has an effectively operating system of people and methods which presents the key information needed for major decisions in a way that permits responsible enterprise officials to grasp required facts early and make decisions quickly and confidently.

In addition to the foregoing opportunities for service, the professional accountant can focus his attention and abilities on the scientific development of data which will give management better quantitative and qualitative information as a basis for decision making. He might direct his skills to testing the enterprise accounting system in a way to improve the collection and publication of accounting and related statistical data in terms of organizational and personal responsibilites and accountabilities. Again by way of illustration of expanded opportunities, the accountant could assist management in improving the accounting and statistical gathering mechanisms in a way to point up for management attention the major exceptions or deviations of operations from both company and industry standards and past averages.

Accounting methodology has served the time honored purpose of quantifying business problems. Through original transaction measurement, classification of data, and presentation of business relationships expressed in numerical terms, accounting methodology permits the expression of business results in less ambiguous and more easily understandable terms for enterprise personnel who are required to make busi-

ness decisions. The accountant, having worked extensively with myriads of accounting systems, can aid management in constructing and revising systems so that the data and reports emanating therefrom will clearly disclose the manner and the extent to which enterprise programs have been effectively accomplished.

Another area for attention by the trained accountant is that of aiding management in the construction of financial or economic models of enterprise operations. This will require careful identification and measurement of the key factors involved in major operations, and the establishment of relationships among these factors which can be used as a basis for projecting alternative decisions and predicting the outcome of such decisions. The professional accountant has a wealth of experience in examining enterprise operations on a step-by-step basis in order to arrive at an opinion regarding the fairness of financial statements. Using past familiarity as a platform, he should be in position to more carefully analyze the sequential flow of operations, establish better criteria for controlling operations at key points within the operations flow pattern, and establish better scientific bases for measuring variations from norms and standards. Improved accounting systems and financial models should be productive of better information for managerial use in forward planning of over-all enterprise operations, in choosing the right project among alternatives for maximizing enterprise profit, and in achieving a minimization of cost of production and distribution. The improved data will enable a management to make timely adjustment of in-put cost to changing or prospective changing revenue schedules.

Another area for the expanded attention of the professional accountant is that of aiding management in objectively assessing the impact of electronic data processing devices on the entire fabric of enterprise control machinery. Since electronic data processing machinery, when properly programmed, can make an enormous number of repetitive decisions formerly made by humans, it is imperative that management together with the accountant and other informed specialists make early determination as to what operations will be automated and which administrative and organizational relationships will be materially altered because of such automation. Many of the data susceptible to processing by automation are those generated in the conventional accounting process. The accountant can be particularly useful in assisting management in programming the data gathering operations most susceptible to automation. This should be done in the light of economy and the best over-all interests of the enterprise and without regard to time honored individual functional responsibilities.

The immediately foregoing discussion has centered on areas in which record data are a significant part of the tools or instruments by which a management plans and controls its enterprise operations. The professional accountant perhaps is the best qualified of external specialists to aid and abet management in achieving highly synchronized and effective in-progress control over operations. His focus however must be directed toward review of evolving transactions rather than on historical transactions. In short, the external accountant may best achieve optimum service to management in the control area through examining and testing enterprise transactions for the primary purpose of advising on ways and means of reconstructing and improving control machinery.

### *Areas for Increased Emphasis in Training Accountants*

One of the hallmarks of a profession is the willingness of its members to assume the responsibility for improving the scope

and quality of its services. The majority of professional people place a high value on continuing education and continuing improvement of performance. However, in the past the efforts of professional accountants have centered primarily on acquiring added skills in highly specialized areas such as tax practice and similar fairly narrow specialities.

In recent months various state and national organizations of accountants have expedited research into the publication of information regarding management services susceptible to performance both by external (public) accountants and by internal accountants and auditors. An enormous task lies ahead for the accounting profession to lay out concrete, orderly plans for the broader-gauged training required to equip the profession's personnel to render the kind of managerially significant judgments and opinions discussed in other sections of this paper.

The profession has an immediate dual responsibility to actively aid and assist universities in reshaping curricula to meet dynamic demands on the profession, and to assist individual practitioners in mapping out internal programs which transcend instruction and experience in the "mechanical" specialties that in the past have furnished the bulk of professional accounting practice.

It is not within the purview of this paper to analyze the detailed content of college curricula designed to attain the objective of developing good judgmental characteristics in accountants. It is believed useful, however, to point out the highlights of an approach which may lead to desirable results.

Exercise of good judgment is based not merely on knowledge of fundamental laws and technique but on demonstrated ability to apply laws and techniques effectively. It is to be taken, therefore, that any program for the development and improvement of judgmental power will seek an inculcation in the individual of a fund of broad knowledge combined with the ability to apply appropriate aspects of the knowledge to specific problems or situations as they arise.

Many educators agree that in disciplining individuals to think effectively a school curricula should be designed to train an individual adequately in at least one of the social disciplines such as sociology, history, law, political science, psychology, economics, etc. Although training in one field is emphasized, the advocates of the "broad field" curriculum recommend that the student acquire a working knowledge of the general findings of several of the social disciplines related to the one of primary emphasis.

The present writer believes that the "broad fields" program has real merit in training accountants and prospective accountants in logical methods of collecting facts, weighing the facts, and drawing serviceable theories or generalizations therefrom. Business life itself is lived as a large unit rather than in isolated compartments. Therefore, an educational program designed to inculcate in a student an integrated, comprehensive view of economic and social life should significantly improve the student's capacity to deal with real life facts and judge wisely in a constantly changing social and technological environment.

Also looming large among the areas for added emphasis in training accountants is that of developing proper study habits and effective use of language. The learner must be instructed in methods of reading in a meaningful manner. Possession of this ability will permit an individual to secure wider, albeit vicarious, experiences as well as help him improve his processes and methods of thinking by permitting him to read understandingly about the thinking habits of qualified and successful people.

A closely allied ability to reading is the ability of an individual to express himself clearly, with proper unity, coherence, balance, emphasis, and precision. The individual who reasons carefully in forming his opinions also tends to reason well in expressing himself to others. This idea bears significantly on the training of professional accountants because much of the endeavor of accountants will culminate in the expression of opinions and conclusions for the benefit of other people.

Before passing on to other matters of emphasis in training professional accountants for better judgmental roles, it may be well to summarize our ideas regarding areas for increased emphasis in educational curricula. A formalized program of education for accountants should attempt to train the minds of learners to function smoothly and rationally within the framework of the best simulated total socio-economic life situations they will face in actual practice. The emphasis should be placed on confronting the learner with problems which span a wide range of social disciplines. The learner should then be guided through sufficient exercises in searching out relevant facts, weighing the facts, deriving timely conclusions, and testing the conclusions so derived. In short, a formalized educational program should focus upon training an individual to think carefully through the major problems that typically arise out of the unified complexes and institutions comprising our modern society. In this regard, courses of instruction might well be arranged around certain core or functional groupings such as the industrial enterprise, political institutions, international relations, etc.

It is not far fetched to suggest that the basic undergraduate curriculum for training accountants of the future will concentrate not on teaching knowledge and techniques of accounting per se but rather upon teaching prospective accountants better methods and techniques for reasoning and judging wisely among the problems and values that arise out of the total economic and social institutions for which accounting is but one supporting discipline. In keeping with the foregoing proposition, it is reasonable to assume that instruction in the specific techniques and methodology of accounting routines and practices can be handled by concentrated post graduate instruction at educational institutions and/or through job training by individual firms of accounting practitioners or accounting or auditing departments of business enterprises.

Professional organizations representing accountants can aid the movement toward a broader professional training by establishing periodic institutes or seminars designed to refresh the practicing accountant on fundamental disciplines studied in school and bring him up to date on the broader recent developments in business enterprise practices and practices on other social institutions relating to his practice. These institutes or seminars should cover material over and beyond the technical specialties offered at conventional meetings for continuing education.

Another means by which the accounting profession can achieve an orderly transition to a broader professional approach is through emphasizing a greater degree of selectivity by professional accountants in the work to be performed. Individual practitioners can broaden their own horizons as well as develop better clients by assisting the latter in recruitment and retention of adequately qualified accounting and other control personnel. The external accountant can also direct a greater degree of attention toward assisting his clients in building and maintaining better internal control and cost reduction devices. Each of the foregoing elements relating to better selectivity of work should permit the external accountant to free himself from the

repetitive routines associated too often with auditing. The freedom so obtained could permit him to concentrate on rendering the kind of decision-making counsel to management expected of a well rounded professional man.

It is obvious that a profession as large as the accounting profession cannot reach its horizon over night. Habitual patterns of action change very slowly. A large number of practitioners will acquire broader-gauged knowledge and experience only through arduous effort and a painful strain on existing work relationships. The profession must be prepared to encourage and assist, where necessary, its members to rapidly acquire the requisite added knowledge. With management consultants, engineers, operations research specialists, statisticians, and other external consultants and specialists pre-empting many of the management services which professional accountants should be performing, it is obvious that in this day of rapid change accountants can ill afford the luxury of awaiting the slow evolutionary progress that would occur during the conventional practice of accounting.

*Conclusion*

Professional accountants have for many years furnished services to management with respect to opinions and advice on the reliability and fairness of historical financial data. Useful as this traditional service may be, it has less value to management as a planning and control device than many other mechanisms or techniques employed by business enterprise. The day is rapidly approaching when professional accountants can no longer afford the luxury of merely uncovering static facts and reporting them to management.

The evolving nature of business enterprise over the past half century has been such that accountants who expect to occupy positions in or with respect to individual business enterprises must be prepared to exercise sound judgment in a variety of new, novel, and often perplexing situations confronting these enterprises. The importance, therefore, of adequate training of accountants for a broader judgmental role is apparent.

This paper has presented the highlights of the judgment forming process, some of the major non-accounting areas in which accountants have unparalleled opportunity for exercising broader and managerially useful judgments, and the outline of areas for increased emphasis by the accounting profession in training accountants for an enlarged judgmental role. It is hoped that the ideas presented will stimulate accountants to think deeply about the bases of accounting and accounting-related judgments. A clearer cut demonstration by the accounting profession that its members continuously use reasoning and exercise sound, constructive thinking should disclose a pattern of professional behavior that prudent men everywhere will be willing to accept as desirable.

If we accept the proposition that the key ingredient of professional practice is service based upon broad knowledge on a high intellectual plane, we cannot avoid being impressed with the observable and pervasive need for a large number of accountants to develop broader knowledge and vision along with their increased proficiency in applying the statistical methodology of accounting and auditing.

The fruits of present opportunities for expanded roles as major advisors and counsellors to management of economic and social institutions will be gathered by those accountants who have the foresight and initiative to secure the necessary added training and experience to equip them for the larger and more productive judgmental roles.

# THEORY AND PRACTICE IN THE CAPITALIZATION OF SELLING COSTS

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It is more than thirty years since Castenholz, Paton, and Woodbury initially raised the troublesome theoretical question of how best to deal with capitalization of administrative and selling costs.[1] During the intervening period, Professor Paton has consistently maintained the position that such costs are subject to deferral beyond the period in which incurred. On the other hand, most textbooks have asserted that selling and administrative charges should be expensed as incurred. It is in the interest of business management that the theoretical and practicable aspects of this question be kept in perspective, and that the original position stated by Paton be retained in the body of accounting theory for two reasons. The first of these is that the framework of accounting ought to be viewed as a logical structure, and the case for deferral of selling and administrative costs is logically supportable under certain conditions. The second and perhaps more compelling reason is that circumstances crop up in business reporting where treatment of certain period costs as expenses may yield misleading results in management reports. This latter aspect has not been formalized in accounting literature. It is the purpose of this article to examine the theoretical and practical considerations, and to establish a partial reconciliation between theory and practice to the end that business reporting of selling costs may be a more flexible mechanism, appropriate to the needs of widely varying enterprises.

### *Business Practice Respecting Non-Factory Costs*

Non-factory costs may be divided into two separate classes for analysis from the point of view of possible deferral on the balance sheet. On the one hand, there are certain "borderline" cost items such as warehousing and handling costs, packaging costs, and administrative charges allocable to factory operations. On the other hand, there is the broad mass of marketing and administrative charges which are remote in time and space from the production line.

The first class of items was the subject of a special research study conducted some years ago by the National Association of Accountants.[2] Although the study was reported in some detail, it suffices here to note that the Committee found that whether such costs were inventoried or expensed was a function of the division or section having control over the costs. If they were controlled by production personnel, these costs were in general charged to inventories. If they were not controlled by production personnel, in general the items were expensed.

In 1955 and 1956, the author sent two questionnaires to a group of manufacturing corporations selected from a list in the 1955

[1] W. B. Castenholz, "The Proper Treatment of Distribution Costs," The Accounting Review, March, 1927; W. A. Paton, "Distribution Costs and Inventory Values," The Accounting Review, September, 1927; and W. F. Woodbury, "A Treatment of Distribution Costs," The Accounting Review, June, 1927.

[2] N.A.C.A. Committee on Research, Research Series No. 10, "Costs Included in Inventories," N.A.C.A. Bulletin, August 15, 1947, Section 3.

edition of the ***Manual of Excellent Managements***, published by the American Institute of Management. The purpose of the questionnaires was to thoroughly investigate business practice in the handling of selling and administrative costs, as well as to determine the extent to which large corporations undertake distribution cost analyses. The first questionnaire was sent to 220 manufacturing corporations (identified by cross-checking the A.I.M. list against *Thomas' Register of American Manufacturers*). Replies were received from 140 corporations. The 1956 follow-up questionnaire was sent to 132 of these corporations (8 could not be identified), and 97 replied. Among responses to the first questionnaire, were thirty-three suggesting that they used deferred cost techniques respecting the selling, administrative, and research areas. Twelve of these were identified more precisely on the second questionnaire as charging borderline costs to inventories. In reply to questions relating to the materiality of the procedures, not one respondent felt that the practices followed had a material effect upon the net income of the company, or on the contribution of individual products, product lines, or other segments.

With respect to selling and administrative costs not proximate to factory operations, analysis requires a further two-way classification into (1) order-getting costs and (2) order-filling costs. Although in concept the latter are assets as incurred, and it is important that the theory lying behind this statement be kept in mind, it is also evident that order-filling costs are so intimately related in time to the point of sale that further consideration of their potential as deferred assets is unwarranted.

Order-*getting* costs such as sales promotion, advertising, and salaries of salesmen are quite a different matter. Based on data in the author's research previously mentioned, it is clear that large manufacturing concerns are aware of the potential effect of order-getting costs on the future revenue stream. This awareness, however, for the most part is not reflected in their accounting procedures. For example, only two companies in the population responding had ever reflected substantial deferred selling costs on the annual statements, and neither company did so as a matter of regular practice. None of the companies deferred administrative charges, except to the extent that certain administrative items were allocated to manufacturing. Responses indicated that reasons for failure to defer these items include:

(1) lack of material effect upon reported net income,
(2) adverse short-run income tax effects, and
(3) inability to develop a satisfactory amortization schedule for deferred items.

On the other hand, unusual practices affecting selling cost deferral (or anticipation) in interim statements were reported by twenty-eight per cent of the companies studied. These practices generally relate to budget equalization of selling costs. The item most frequently "equalized" is advertising. The techniques used (where these were reported) range from equalizing advertising expense dollars (where costs are incurred on an irregular basis) to equalizing expense percentages (where costs incurred are on a rather regular basis). In effect, where equalization results in not expensing advertising costs incurred on a current basis, the result is a short-run capitalization of costs. On the other hand, where equalization results in expensing costs not yet incurred, an anticipation of expense results. There appears to be a desire to eliminate from interim statements any gross distortions created by arbitrary contractual agreements for advertising, but there is some question as to whether the results in fact properly match costs

with revenue. In the case of advertising expense anticipation, a cause and effect relationship between advertising and sales cannot possibly exist, unless the costs are billed at some point in time after the advertising services have in fact been rendered. Equalization methods, then, do not appear to have a strictly logical relationship to cost and revenue matching in theory. This is not to say that they are not appropriate to the practical reporting needs of some business enterprises. They are a product of the unsuitability of the monthly income statement as a precise vehicle for measurement of operating results, and serve as a smoothing device to mitigate seasonal or other irregular cost and revenue phenomena.

*Limitations of Theory for Reporting Purposes*

The discussion to this point presents a rather discouraging picture of the possibilities of implementing the conceptual treatment of non-factory costs as assets. As indicated, there are three main reasons. These are further discussed in the following paragraphs.

In those situations where the volume of selling and administrative costs that impinge on future revenue is small, the practical approach of expensing seems to be fully justified, although not strictly correct in logic.

Where income taxes are alleged to be the main factor or one of the main factors contributing to period cost expensing, it is not clear whether this is really a substantial obstacle to cost deferment. A strong case can be made for keeping tax considerations out of the picture, particularly in large corporations. In fact, it is rather surprising that a substantial number of respondents mentioned the point. The evidence certainly tends to imply that some attempt is made in large corporations to keep the general ledger consistent with the income tax return. One respondent wrote, for example:

> Our Profit and Loss Statement conforms as closely as possible to the figures submitted on our income tax returns and Federal and State tax regulations, to a large degree, govern our accounting policies regarding the handling of Deferred Charges.

A number of respondents mentioning the tax issue, however, suggested that conformity of ledger to income tax return was not the main factor in decisions not to defer non-factory costs.

This leaves the third consideration, inability to establish a reasonable schedule of amortization for deferred non-factory costs. Intangibles, unlike tangibles, do not have a reasonably definitive life, unless a legal or contractual period is established. No physical phenomena are present to suggest the extent to which economic life is exhausted. It is generally believed to be desirable in the case of deferred items to view them as having a short-run existence. It is also believed to be even more desirable in the case of intangibles of the type here considered to assume that they never acquire an asset status at all. The crux of the matter is the degree of uncertainty. It is almost always very high.

In sum, the handling of non-factory charges in practice implies a generalization that all such costs are expenses, and that accountants should uniformly accord them treatment as period costs. This appears to be the result primarily of inability to schedule amortization of related intangible assets. The author believes that the acceptance of such a generalization would inhibit attempts to overcome the difficulties inherent in measurement of the asset elements in intangible selling and administrative costs, with a resultant loss of utility to management in reported net income and/or contribution figures. The

author further believes that these difficulties can be resolved in part. For this reason, attention should be given to (a) the areas most deserving of further investigation with respect to capitalization and amortization of the kinds of costs in question, and (2) methodologies presently available for handling such costs.

*Kinds of Costs Deserving of Deferral*

In the vast pool of selling and administrative costs, only research and development charges and advertising create any genuine problems. Costs in both areas are deserving of close attention, but the author has limited his research so far to advertising.

Much of the advertising done by large manufacturing companies is routine in character, and expensing according to the period concept appears to be appropriate for the associated costs. There are two notable exceptions, (1) costs incurred by companies in preparing advertising campaigns, prior to the issue of the media in which the advertisements will appear, and (2) costs incurred in the promotion of new products.

A reasonable time at which to expense costs of the first type is the month in which the media are published, or otherwise brought to the attention of consumers. Although this begs the question of the period through which revenue is generated subsequent to the release of the advertisements, it is superior to the practice of expensing as costs are incurred.

A reasonable time at which to expense costs of the second type is the month in which the new product is released to the public. Again, the problem of amortization of such costs to future periods is not resolved. In this latter case, it may be noted, the costs are often very substantial and the initial revenue volume small. For this reason, additional procedures, albeit arbitrary ones, may be considered desirable.

*Amortization of Introductory Advertising Costs*

Almost all business decisions involving innovation are based upon estimates of recovery of initial investment. If a computer is to be substituted for a tabulating system, for example, a test that may be employed is how soon the estimated savings will pay for the machine.

Similar questions are usually raised by business management in the case of new product introductions. The test may be whether the entire initial investment will be recouped within a period of, say, six months (or three years). Introductory advertising may represent a substantial portion of the initial investment. It follows that if, in the case of a new product, the decision to market is based upon a predetermined expectation of recovery of investment, the amortization period is fixed by managerial fiat. Conceivably, then, the costs could be recognized as deferred assets as incurred, and then amortized over the period in question.

One objection to this procedure is that *after* the product is brought to market, additional advertising costs are in part related to the long pull and in part to the generation of current sales. New products may be heavily advertised or promoted both prior to and subsequent to the point of becoming available to consumers. There is no scientific method of isolating post-sale introductory costs. The advertiser may well be content to expense all advertising as incurred, or to defer and amortize only those costs incurred to date of first shipment (the latter is preferable).

In light of these considerations, it seems unwise to depart from the period concept respecting non-factory costs as applied to general ledger procedure and published

TABLE 1. CUMULATIVE CONTRIBUTION OF NEW PRODUCT A

| | End of Month Number | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Sales | $100.00 | $250.00 | $450.00 | $700.00 | $1,000.00 | $1,500.00 |
| Cost of Sales | 60.00 | 150.00 | 270.00 | 420.00 | 600.00 | 900.00 |
| Gross Margin | $ 40.00 | $100.00 | $180.00 | $280.00 | $ 400.00 | $ 600.00 |
| Introductory Advertising | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 | 300.00 |
| Regular Advertising | 20.00 | 40.00 | 60.00 | 80.00 | 100.00 | 120.00 |
| Total Advertising | 320.00 | 340.00 | 360.00 | 380.00 | 400.00 | 420.00 |
| Contribution | ($280.00) | ($240.00) | ($180.00) | ($100.00) | $ —0— | $ 180.00 |

financial statements. For internal reporting purposes, the problem may be solved in part by the preparation of cumulative statements for new products. These should be independent of fiscal periods, and date from the day of first shipment. If the books are closed within the introductory period, such closing should not affect internal reporting. By the end of a period varying from six months to a year, the effects of the initial investment will be somewhat mitigated as it is, in effect, amortized over cumulatively longer periods of time. This effect is illustrated in Table 1.

An even better method would be to amortize (for internal reporting purposes) the introductory pre-sale costs over the period fixed by management as its test of recovery of investment. This is illustrated on a straight-line basis in Table 2, assuming a ten-months recovery period. A per cent of sales amortization is possible, but since the anticipated sales may not materialize, it is more likely to require adjustments at periodic intervals. Table 3 illustrates results on this basis. In the illustration it is assumed that an amortization rate of 20% of sales is considered appropriate.

The most desirable approach, of course, is to capitalize all initial investment costs whether incurred prior to or subsequent to

TABLE 2. CUMULATIVE CONTRIBUTION WITH STRAIGHT-LINE AMORTIZATION OF PRE-SALE COSTS

| | End of Month Number | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Sales | $100.00 | $250.00 | $450.00 | $700.00 | $1,000.00 | $1,500.00 |
| Cost of Sales | 60.00 | 150.00 | 270.00 | 420.00 | 600.00 | 900.00 |
| Gross Margin | $ 40.00 | $100.00 | $180.00 | $280.00 | $ 400.00 | $ 600.00 |
| Introductory Advertising | 30.00 | 60.00 | 90.00 | 120.00 | 150.00 | 180.00 |
| Regular Advertising | 20.00 | 40.00 | 60.00 | 80.00 | 100.00 | 120.00 |
| Total Advertising | 50.00 | 100.00 | 150.00 | 200.00 | 250.00 | 300.00 |
| Contribution | ($10.00) | $ —0— | $ 30.00 | $ 80.00 | $ 150.00 | $ 300.00 |

TABLE 3. CUMULATIVE CONTRIBUTION WITH PERCENTAGE AMORTIZATION OF PRE-SALE COSTS

| | *End of Month Number* | | | | | |
|---|---|---|---|---|---|---|
| | *1* | *2* | *3* | *4* | *5* | *6* |
| Sales | $100.00 | $250.00 | $450.00 | $700.00 | $1,000.00 | $1,500.00 |
| Cost of Sales | 60.00 | 150.00 | 270.00 | 420.00 | 600.00 | 900.00 |
| Gross Margin | $ 40.00 | $100.00 | $180.00 | $280.00 | $ 400.00 | $ 600.00 |
| Introductory Advertising | 20.00 | 50.00 | 90.00 | 140.00 | 200.00 | 300.00 |
| Regular Advertising | 20.00 | 40.00 | 60.00 | 80.00 | 100.00 | 120.00 |
| Total Advertising | 40.00 | 90.00 | 150.00 | 220.00 | 300.00 | 420.00 |
| Contribution | $ —0— | $ 10.00 | $ 30.00 | $ 60.00 | $ 100.00 | $ 180.00 |

the point of first sale. Needless to say, this requires a managerial definition of the amount of the advertising budget considered to be introductory in character, and the periods in which it will be spent. For example, if the initial investment is $300.00 (as illustrated in Tables 1, 2, and 3), it does not matter *when* the $300.00 is spent as long as it is amortized over the period management sets as its test period. The reported income will be the same if the amount is spent at the time of and subsequent to release of the product, as it would be if it were all spent prior to the release of the product. It can be observed that either assumption will make no change in the reported contribution figures in Tables 2 and 3.

### *Conclusions*

The author believes that capitalization of non-factory costs under appropriate conditions is sound in theory, and, within limits, desirable in practice. The applications in practice should be limited to introductory advertising or similar large and non-recurring expenditures. No changes in published reporting are suggested. For one thing, capitalization of costs would have far less effect on reported net income on a company-wide basis than it would have on product and product line contribution or net income figures. Also, it would require an additional item in the reconciliation of reported net income to taxable income. On the other hand, the potential effect of capitalization on reported net income or contribution of business segments can be very substantial. Approximations of management intent for recovery of investment is offered as a basis for amortization on internal new product and other segment reports.

# DEPRECIATION: LEFT OR RIGHT?

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Professor Sidney I. Simon[1] argues that accumulated depreciation should not be deducted from the assets, but shown on the other side of the balance sheet as a reserve. While his article is interesting and stimulating, his views seem to me to be unacceptable.

He recalls that, in the days before it was generally realized that depreciation ought to be recorded consistently and systematically, there was a tendency to allow it only in years of good earnings. It was also customary at that time to post the credit directly to the asset account. Professor Simon condemns both these practices; indeed, he fails to separate them. Because it was wrong to provide depreciation only intermittently, he implies that the bookkeeping method used by those who did so was also wrong.

But if it is agreed that accounting for depreciation is a process whereby the cost of the asset is progressively treated as an expense, how can it possibly be wrong, in principle, to show a progressive reduction in the asset account balance? If we set up a Reserve for Depreciation account *and treat it as proposed by Professor Simon*, are we not implicitly denying that depreciation accounting is conceived as a process of allocation of the cost of the asset? The debit to revenue suggests that we are making such an allocation, but the failure to credit the asset account—to which the expenditure was originally charged—clearly suggests that we are not allocating that expenditure.

Now I am not advocating abandonment of the Reserve for Depreciation[2] account. Its use is justifiable on grounds of convenience. It is a device which enables us to keep our records more clearly. We should never forget, however, that it is no more than a device; that in principle the credits made to the reserve account really belong to the asset account. This principle is satisfactorily observed only if the reserve balance is at all times regarded as a deduction from the asset balance—or, if you like, as the credit side (or a substantial part of the credit side) of the asset account, kept *for convenience* on another page of the ledger.

It is therefore a great pity that the conferring of a title such as Reserve (or Provision, or Allowance) should induce many to attribute to this collection of credits some sort of independent existence. The mystical "power of words" seems to be at work here. Would we feel quite the same about the situation if we used some neutral title such as "Depreciation Contra Account"? Would anybody, for instance, feel disposed to regard a mere contra account as a source of funds or to compare it with a surplus reserve?

Once the title "reserve" is given, however, such speculations seem to come easily. To quote the article: "Accumulated depreciation is not too different from a surplus reserve (albeit it comes before profit measurement and not after) because failure to record depreciation costs . . . would overstate profit and surplus, and tempt directors to dissipate assets in dividends."

Surely this reasoning is inadequate. Failure to record *any* cost would overstate

[1] Simon, Sidney I. "The Right Side of Accumulated Depreciation," The Accounting Review, January 1959.

[2] In Australia we usually call it "Provision for Depreciation."

profit. But when we record, say, wages as a cost, we don't get a "reserve" as the reward of our virtue. Instead, we are compelled to show the diminution of an asset (cash).

Now when cash runs down it is impossible not to observe the fact; the running-down of a fixed asset, although no less real, is not so obvious. After all, the asset is still there. When we buy an item of plant, however, it is not the thing itself that we want, but the productive services which it will give us over the years. These services, although invisible, are used up in the course of production in exactly the same way as raw materials are used up. If this fact is obscured by the use of a Reserve for Depreciation account, it would be better to go back to the old method of crediting the asset account, even if those who formerly used it recorded the consumption of the asset only when they felt like it.

Professor Simon refers more than once to the danger of misleading the layman if the asset appears in the balance sheet at the net figure, which he believes may be interpreted as the "true value" of the asset. This point is quite valid. But why assume that we are helpless in this matter? What prevents us from stating, in plain English in a prominent footnote, that the amount does not purport to be a valuation? We could also refer those interested to a fuller explanation of the matter included in an appendix to the report.

Personally, I would far, far sooner undertake the job of writing for the layman a succinct explanation of why depreciation has been deducted, than that of explaining, whether briefly or at length, the meaning of a "Reserve for Depreciation" shown as an equity—particularly if the explanation had to include its role as a source of funds. Here, indeed, is a sophisticated concept to puzzle those untrained in accounting! If a mere book entry can provide funds, why are we not all millionaires?

Professor Simon concedes that "technically" the funds are not actually provided by the book entry; he then adds: ". . . the depreciation reserve results in the retention or provision of funds because it prevents their disbursement as dividends." But obviously retention and provision are not the same. The funds accrue from day to day; end-of-the-year entries do not alter the situation in the slightest. Why then do some accountants go out of their way to imply otherwise; what is the point of it?

As far as I can see, the insistence that depreciation is a source of funds springs from the assumed necessity to regard net earnings as another source. The truth, of course, is that it is the sum of these two which provides the funds. Seeing that neither is independent of the other—the more depreciation, the less profit—it is futile and misleading to list them as separate sources. This fact is recognized by those who "add back" depreciation in a funds statement; certainly an awkward procedure to explain to the non-accountant, but far less so than to persuade him that depreciation provides funds on its own.

Incidentally, how do those of Professor Simon's school of thought get on if net profit is arrived at after charging non-cash expenses other than depreciation? I should dearly love to overhear an attempt to convince a layman that a loss on the disposal of a fixed asset is an independent source of funds!

To sum up: Reserve for Depreciation is not a true reserve, but only a bookkeeping device. Deducting it from the asset is not the result of habit or inertia but of logical necessity. Depreciation is not an independent source of funds; if it appears in a funds statement, it should do so only as an adjustment to net profit.

# ACCUMULATED DEPRECIATION—BALANCE SHEET PRESENTATION

W. G. Leonard
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The article by Sidney I. Simon in the January, 1959 issue of Accounting Review entitled "The Right Side of Accumulated Depreciation" stimulated the interest of this "accounting theorist" (although I think I do not qualify as a target of the author's other epithet, "academician").

I will first state my belief that the most useful presentation of fixed assets is somewhat as follows:

| | |
|---|---|
| COST | $xxx |
| Deduct | |
| ACCUMULATED DEPRECIATION | xxx |
| Balance representing UNAMORTIZED PORTION OF COST | $xxx |

Secondly, as a Canadian accountant, I subscribe to the doctrine enunciated by Bulletin No. 9 of the Committee on Accounting and Auditing Research of the Canadian Institute of Chartered Accountants in 1953 which states that the term "reserve" is inappropriate as a description of accumulated depreciation and that this use of the term "reserve" has led to misunderstanding of financial statements. I point with patriotic pride to the statistical evidence [1957 edition of *Financial Reporting in Canada*, Table 31 (a)] that "inappropriate use of the term 'reserve'" diminished sharply in Canada between 1953 and 1956 (largely, I think, as a result of the leadership provided by this and other Institute committees). I trust that, in Canada, inappropriate uses of the word "reserve" will continue to diminish.

Mr. Simon, in the article cited, states that the arguments of some protagonists of the asset-deduction approach which he opposes are "quite negative in nature." Then he adopts a double negative approach by devoting a large part of his article to combating the negative-type arguments. This writer will attempt to eschew all negative reasoning and to advance positive reasons to support the viewpoint he adopts.

Mr. Simon argues that many readers of balance sheets are given "the false impression that the net asset figure represents its value" (p. 100). Surely, if this is true, the remedy is plain! Describe the figure plainly as unamortized portion of cost in words that are clear and unmistakable. If all figures are clearly labeled, no reasonable man can deny the dictionary meaning of the label that a figure carries.

Mr. Simon states (p. 102) "The balance sheet not only fails to display the value of fixed assets, but can no longer truly be said to show the net worth of the business." Any reasonably sophisticated accountant knows that:

(1) No balance sheet prepared from a double-entry accounting system can fairly be expected to display values. The entries relate the effect of completed transactions and deal in amounts of bargained consideration or "cost," not in "values."

(2) No balance sheet prepared from a double-entry accounting system can fairly be expected to show "net worth" unless "net worth" is given a narrow, technical meaning that is completely divorced from dictionary meanings of the words.

Any reader seeing the words "net worth" may fairly assume that the expression refers to the amount that a business is "worth" in the commercial sense of the term. Hence, the term "net worth"

is misleading and should not be used in financial reports. The basic principles cited above are, however, irrelevant to the question of the best method of disclosing accumulated amortization of fixed asset costs.

Next, Mr. Simon deals with the balance sheet as something analogous to a statement of funds. I agree with him that, properly used, this concept may be extremely helpful in analyzing the financial history of an enterprise. Let me first make it clear that in this discussion I use the word "funds" as a convenient word denoting "net spendable resources" or "net working capital." It seems from the context that in most but not all of his uses of the word Mr. Simon intended this meaning to be taken. Mr. Simon lists accumulated depreciation as a fourth source of funds in addition to (1) creditors' loans, (2) stockholder investment and (3) retained earnings (p. 103).

Let us examine the theory that accumulated depreciation is an independent source of spendable resources. Where does depreciation come from? A logical answer is that depreciation attempts to "cost" the transfer of the services of a productive asset to a customer which occurs whenever the enterprise sells its product. The cost that is now allocated against sales revenue as accrued depreciation was incurred in earlier years and took the form of an outlay of spendable resources at the time the productive asset was acquired. The cost represented an initial expenditure depleting the assets of the treasury; the resultant decrease in the treasury now is being refilled out of revenues which the asset helps to earn. There is no net increase in resources, merely the replenishment of a stock that was expended earlier.

Having devoted this article so far to an attempted rebuttal of points with which I disagree, I will now try to support my own viewpoint with a statement of principles.

**(1) Historical cost of a fixed asset is the result of a transaction or series of transactions that actually occurred in the market-place. Properly displayed, historical cost has the merits of being meaningful to readers and objectively determinable (without reference to opinions or judgment of management).**

**(2) Historical cost should be allocated to revenues because (a) funds were laid out for a revenue-earning purpose and (b) the outlays represent expenses of earning revenues over time. The accrued depreciation is a cost allocation and is most meaningfully disclosed as an apportionment of the cost to which it relates. The fact that each apportionment of historical cost represents an estimate may usefully be emphasized by use of the word "estimated" if this is thought desirable. The fact that the rapidity of cost allocations properly depends on forecasts of possible obsolescence may also be emphasized to the extent desired. Inadequacy or ambiguity of presentation is irrelevant in choosing between alternative accounting methods.**

# A CRITICAL APPRAISAL OF THE CURRENT ASSET CONCEPT

SAUL FELDMAN
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IN THE past twenty years of accounting progress and thought, the concept of "current assets" in accounting has undergone very little change. In the '30s the term was considered to consist of "cash and other assets that could readily be converted into cash in the near future."[1] The emphasis at that time was on the liquidating value of the current assets for credit purposes, and balance sheets were based not so much on the "going-concern" idea as on the protection afforded to creditors in the event of liquidation. No doubt the economic picture during those years had a great deal to do with shaping the philosophy of the concept.

In August of 1947, The Committee on Accounting Procedure of the American Institute of Accountants issued Accounting Research Bulletin No. 30. In this bulletin the concept of current assets was extended to mean "cash and other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business."[2] In October of 1951, The Committee on Concepts and Standards Underlying Corporate Financial Statements of the American Accounting Association issued Supplementary Statement No. 3 endorsing Accounting Research Bulletin No. 30.

In the discussion of the concept thus developed, the Committee on Accounting Procedure pointed out that "definitions of current assets have tended to be overly concerned with immediate or forced liquidation values" and that cognizance should be taken of "the tendency in recent years for creditors to rely more upon the ability of debtors to repay their obligations out of the proceeds of current operations and less upon the debtor's ability to pay in the event of liquidation."[3] For convenience, the one-year time period was continued as the basis for the segregation of current assets (with certain minor exceptions relating to those industries where the normal operating cycle was longer). Here again it should be emphasized that the over-all economic picture in 1947 and 1951 was quite different from that prevalent in the '30s.

The redefinition of current assets in 1947 caused scarcely a change in balance sheet presentation. Prior to that time there had been some discussion as to the advisability of including within the current asset category such items as prepaid insurance. The proponents argued that because the organization would not have to pay out cash for these items during the subsequent period, items of this nature should be included. The opponents argued, with just as much fervor and conviction, that to include such items in the current asset section of the balance sheet would mean the abandonment of the deferred charge category except for such items as organization expense and unamortized bond discount. In retrospect one can say now that it represented the proverbial tempest in a teapot. To this day some

[1] H. A. Finney, *Principles of Accounting*, Volume 1, Intermediate, 1936, p. 49.
[2] *Accounting Research Bulletin No. 43*, American Institute of Accountants, p. 20. The essential feature of A.R.B. No. 30 have been incorporated in A.R.B. No. 43.
[3] *Ibid.*, p. 19.

financial statements include prepaid charges among the current assets while others prefer to show them elsewhere.

The full usefulness of the redefinition of current assets, therefore, is still to be realized. It is the purpose of this article to present some thoughts on how this may be accomplished within the framework of the redefinition so that the balance sheet can once more take its place as a highly useful member of the family of financial statements.

The essence of the 1947 redefinition lies in the words "or other resources commonly identified as those which are reasonably expected to be . . . consumed during the normal operating cycle of the business." For the first time the consumption of asset values during an operating cycle becomes a criterion for classification.

In a sense, all current assets are "consumed" during the normal operating cycle. The opening balance of cash, for instance, is consumed (or turned over) many times during the cycle in the payment of expenses, liabilities, taxes, etc. Accounts receivable are "consumed" in the process of conversion to cash, and inventories are "consumed" in the sales process or in conversion from one form to another. We rarely think of those assets as "consumed," however, in the sense of cost expiration, nor would any concept of current assets built around such a broad definition of "consumed" be particularly helpful in understanding their nature.

The question of which assets are consumed during this cycle therefore becomes of importance for two reasons:

1. It enables us to identify those assets, or portions of assets, which are not now included within the current asset category and which belong there under the redefinition.
2. The identification and inclusion of new assets within the current category will make the balance sheet more meaningful as a management and financial tool.

For our purposes, we can eliminate from consideration all assets presently included within the current category by merely saying that they belong there. It is true that, in one case, the dividing line between inclusion and exclusion is one of managerial intent rather than the outcome of a natural classification procedure.[4] But an examination of the list of assets presently included in the current category indicates that the inclusion of all of them can be justified on the basis of some portion of the phraseology other than the new cost expiration concept.

Search as one may, there is nothing in the official pronouncements of the American Institute of Accountants or of the American Accounting Association which can serve as a guide in attempting to discover what it is that their respective committees had in mind when they inserted the phrase "consumed during the normal operating cycle" in their definition of current assets. Nor can we turn to any of the standard textbooks on accounting theory for assistance in this respect. We must attempt therefore to answer this question for ourselves. The one possible exception lies in the prepaid expense category which represents costs incurred for future operating periods. If it was the intention of our professional societies to justify the inclusion of this particular class of assets on the basis of "consumed costs," that intention was not expressed.[5] Even if it were, however, in no sense could that be a factor tending to exclude from further consideration any other assets which might fit the

[4] Thus marketable securities are to be considered current where it is the *intent* of management to use excess cash for short-term investment purposes.

[5] The Committee on Accounting Procedure of the A.I.A. (A.R.B. No. 43—p. 20) used this language to justify the inclusion of prepaid expenses within the current asset category. "Prepaid expenses are not current assets in the sense that they will be converted into cash but in the sense that, if not paid in advance, they would require the use of current assets during the operating cycle."

definition. To do otherwise would result in a rigid formalization of an accounting concept which, by its very nature, perforce must remain flexible.

Among other asset categories, however, there are several types which are subject to annual write-offs for depreciation and amortization. I refer, of course, to those categories presently listed on balance sheets as:

1. Fixed Assets (Plant, Machinery, etc.)
2. Intangibles (Patents, etc.)
3. Unamortized Bond Discount

For purposes of this article my discussion will be confined to the first two categories since it will be obvious to the reader that the principles enunciated, if applicable to these two, will be equally applicable to the last, or to any others which may have been inadvertently omitted.

*Fixed and Intangible Assets*

Generally speaking, the annual depreciation charge for fixed and intangible assets is based on two factors:

1. Cost less salvage value
2. Estimated useful life

Each year there is charged to operations some portion of the original cost of these assets under the accrual concept of accounting. This system of annual write-offs quite properly is viewed by the accounting profession as a system of cost allocation and not of valuation. Since it is a system of cost allocation, depreciation takes place not when the journal entry is made to record it but as a result of a continuous allocation procedure extending, by arbitrary definition, over the operating cycle. The journal entry merely gives formal expression to an otherwise accomplished fact. Here, then, we have a perfect example of costs which *are to be* consumed during the normal operating cycle of the business and, therefore, by definition, a candidate for inclusion among current assets.

In order to carry this one step further we shall presume that a firm has incurred some long term indebtedness in the form of a bond issue for the purpose of constructing new plant and equipment and that, furthermore, the annual retirement figure for such long-term debt is exactly equal to the annual depreciation charge. The inclusion of the annual retirement figure for long-term debt among current liabilities, of course, has the effect of reducing working capital which can now be shown as follows:

*ABC CORPORATION*
*Statement of Working Capital*
*December 31, 1957*

| | | |
|---|---|---|
| Current Assets, Total | | $250,000.00 |
| *Current Liabilities* | | |
| Portion of long-term debt maturing during the coming fiscal year | $ 25,000.00 | |
| Other current liabilities | 100,000.00 | |
| Total Current Liabilities | | 125,000.00 |
| Working Capital | | $125,000.00 |

Now, since under the terms of our theoretical problem, the amount of depreciation to be charged to operations during the year 1959 is exactly equal to the $25,000.00 to be redeemed under the terms of the bond indenture, the operating profit for the year will be reduced by a non-cash charge of that amount. Under the theory of the "Statement of Sources and Application of Funds," however, the net working capital of the organization will be increased at the end of 1958 by the sum of the operating profit for the period plus the depreciation charge of $25,000.00 (provided that the other items remain constant). We may now say that the working capital used to retire the bonded indebtedness during the year has been restored.

The fact remains, however, that the restoration of the working capital used to redeem the bonds is shown exactly one

year too late under the going-concern theory of the balance sheet and that current assets, therefore, are *always* understated. Under present procedure we restore working capital at the time the journal entry for depreciation is made, forgetting that the entry, by itself, is merely the culmination of a system of cost allocation (and expiration) that has been going on for a complete operating cycle. In preparing current balance sheets, we assume that the total of current assets as shown is all that will be available to meet obligations when the fact remains that there are asset values expiring as a result of depreciation estimates which will tend to increase the amounts available for such obligations over and above the totals of existing assets plus net operating profit after depreciation.[6] Where the investment in fixed assets is particularly high, this understatement of current assets, and therefore of working capital, can be quite serious in balance sheet analysis.

### *Proposed Revision of the Current Asset Category on the Balance Sheet*

To give full effect to the redefinition of current assets in Accounting Research Bulletin No. 30, it will be necessary to revise the presentation of current assets on the balance sheet to reflect two basic categories:

1. Cash and other liquid assets
2. Costs expiring during the normal operating cycle of the business, i.e. that portion of long-term costs, deferred charges, and prepaid expenses to be charged to operations during the subsequent operating cycle.

The current asset section of the balance sheet would, under the proposed change, look as follows:

*XYZ Manufacturing Company, Inc.*
*Balance Sheet*
*December 31, 1958*
*Assets*

*Current Assets*
- Cash and other liquid assets
  - Cash in bank and on hand
  - Temporary investments
  - Accounts and notes receivable
    - Net realizable value
  - Merchandise inventories
    - Total cash and liquid assets
- Expiring Costs
  - Prepaid expenses
  - Cost of fixed and other assets to be recovered due to depreciation
  - Bond discount to be amortized
    - Total Expiring Costs
    - Total Current Assets

The above reclassification and presentation of current assets accomplishes three things:

1. There will be included in the current asset concept the full meaning and import of the redefinition enunciated by the professional societies.
2. The flow of funds arising from non-cash items will now be shown at the beginning of the operating cycle where it belongs if the phrase "going-concern value" is to have any meaning.
3. The traditional concept of current assets, based on the credit man's approach to the balance sheet, is left undisturbed by showing those assets as a separate sub-total of the total current asset figure.

### *Conclusion*

In order to give full meaning and expression to the redefinition of current assets as enunciated in Accounting Research Bulletin No. 30 and restated in Accounting Research Bulletin No. 43, it is necessary to include that portion of fixed and other depreciable assets and of deferred charges which will be charged off to operations during the coming operating cycle. Such charges correspond to the concept of current assets in the redefinition as expressed in the phrase "costs to be consumed during the normal operating cycle of the business."

The effect of including such items in the

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[6] The author recognized the fact that current assets will be increased in this manner to pay current obligations only if there are sufficient revenues to cover all costs and expenses of the period, including depreciation. It is also true that under certain circumstances working capital may be increased even though there is a net operating loss after depreciation.

current asset category will be to increase working capital. This is justified since these non-cash charges to operations increase the amount of working capital over and above the reported net profit for the period (other items being constant) and show the true working capital of the organization at the beginning of the period under the going-concern theory of asset valuation.

The presentation of this proposed change would be accomplished by dividing the current asset category into two sections. The first would consist of cash and other liquid assets to enable the credit agencies to prepare and use their traditional balance sheet ratios. The second would consist of those costs "to be consumed during the normal operating cycle of the business."

If these proposals are accepted, we will have a balance sheet every bit as dynamic as our profit and loss statement in showing the movement of costs through the organization, something that is greatly needed and to be desired in order to revitalize an important financial statement.

# LEGAL VIEWS OF THE CORPORATE INCOME TAX PROVISION

PAUL H. WALGENBACH
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SINCE the emergence of the tax allocation views of the Committee on Accounting Procedure of the American Institute of Certified Public Accountants and the lengthy and well-documented excoriation of the allocation proposition by the Securities and Exchange Commission in *Accounting Series Release No. 53*, a good deal of attention in accounting literature has been given to the role of the corporate income tax provision in income determination. Despite the fact that tax allocation procedures have found a large measure of acceptance in practice and although the S.E.C.'s position has changed extensively,[1] there remains considerable difference of opinion with respect to the basic nature of the tax deduction and how it should be viewed from the standpoint of income determination, statement presentation and disclosure, rate regulation, and financial analysis. In many of the discussions in the literature, arguments concerning the propriety of tax allocation are frequently based upon *premises* regarding the basic nature of the tax provision. Yet, in most of these discussions, scant attention has been given to the fact that the accountant is not the sole arbiter in the manner of handling economic data. In attempting to determine whether the corporate income tax provision should be regarded as an expense, loss, or distribution of earnings, or whether some other appropriate alternative exists, accountants should be aware of viewpoints regarding the tax provision which have been advanced by others who deal with the same economic data. In this writing I should like to direct attention to such viewpoints which have been expressed in legal decisions over a period of years.

Since the inception of corporate income taxes in this country, the legal view of the tax provision has frequently been a rather cursory one, and in practically every case the provision has been regarded in the nature of cost or expense. Many statements made in court decisions over the years are bald assertions of fact with little refinement or embellishment. This may be attributed to the fact that, in earlier years of corporate tax existence, the amounts of tax involved were less significant than they are today and perhaps not especially worthy of lengthy discourse, and that the philosophy of earlier court pronouncements has been brought forward in later cases in the usual manner of precedent citations.

Before the Sixteenth Amendment was adopted, the Supreme Court upheld the Federal corporation income tax of 1909, known generally as an excise or franchise

[1] The actual current position of the S.E.C. is reflected in the financial statements included in prospectuses and other filings with the Commission. A review of the Commission's Annual Reports indicates that its original views with respect to inter-period allocation were reversed quite some time ago; where appropriate, inter-period allocation resulting in constructive charges and credits to the tax provision is now required. The matter of the accumulated credit for deferred taxes has not yet been settled. On December 30, 1958, the Commission released a Notice of Intention to Announce Interpretation of Administrative Policy which indicated that such credit should not be presented as any part of equity capital. Recently, a six-hour hearing was held before the Commission with respect to this position, but no conclusions have yet been announced.

The original position taken in Accounting Series Release No. 53 still applies to intra-period allocation. The Commission does not agree with method (a) in paragraph 10 of Section B, Chapter 10 of Accounting Research Bulletin No. 43. Method (b) in this paragraph is consistent with the Commission's position.

tax, on the grounds that operation of a corporation is a special privilege properly subject to Federal taxation. Mr. Justice Day, speaking for the Court, referred to the tax as "an excise upon the particular privilege of doing business in a corporate capacity" and called it "a tax upon the doing of business with the advantages which inhere in the peculiarities of corporate or joint stock associations."[2] The "benefit" or "privilege" theory has often been given as justification for the corporate income tax,[3] especially to counter the charge of "double-taxation." Not infrequently, it has been used to support the view that the tax provision should be regarded as a distribution of profits to the government rather than as a cost of doing business.

It is doubtful that the Court intended any special meaning to imply that the tax law acted to make the Federal government a partner in corporate ventures, although such is sometimes inferred from the "benefit" theory. In this case, the Court was simply justifying the existence of the corporate income tax and the case is of interest because it is about as thorough as the Court has ever been in discussing the *nature* of the tax. Very little, outside of constitutional questions, was mentioned with regard to the nature of the tax in the subsequent case, *Brushaber v. Union Pacific Railroad*,[4] which upheld the constitutionality of the 1913 Federal income tax law.

### *The Tax Provision in Income Determination*

In cases involving income determination, time after time the courts have failed to make any great distinction among various forms of taxes, nor have they generally distinguished between taxes and other expenses. For example, in *U. S. v. Anderson*,[5] the court decided that a munitions tax was subject to accrual like other expenses of a business: "In this respect, for purposes of accounting and of ascertaining true income for a given accounting period, the munitions tax here in question did not stand on any different footing than other accrued expenses appearing on appellee's books." This case was frequently cited later in other cases[6] involving the accrual of Federal income taxes, intimating that the various taxes were homogeneous in character.

The only exception that could be found to the general legal concept of income tax as an expense in the determination of income is that found in the 1921 case, *U. S. v. Woodward*,[7] in which it was held that Federal income taxes and excess-profits taxes are not deductible as operating expenses in computing the net income to be used as a basis for the calculation of the taxes themselves. Of course, this case does not fall within the category of the usual income determination cases in an accounting sense as would cases involving contractual conditions resting upon accounting determinations of income. This was a "tax" case, and like so many of the tax cases, turned upon the intent of the tax law. Furthermore, taxable net income is an artificial quantum arrived at by strict adherence to a prescribed mode of calculation dissimilar in many respects to that necessary to determine accounting net income. In any event, allowance of the Federal income tax as a deduction in computing the tax would have necessitated the use of algebraic equations, a notion that perhaps would have appeared somewhat repugnant at the time. After all, both the

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[2] *Flint v. Stone Tracy Co.*, 220 U. S. 107, at 151, 145 (1911).

[3] For example, see *Stratton's Independence, Limited v. Howbert, Collector of Internal Revenue*, 231 U. S. 399 (1913); also *Anderson, Collector of Internal Revenue v. The Forty-Two Broadway Company*, 239 U. S. 69 (1915).

[4] 240 U. S. 1 (1916).

[5] 269 U. S. 422 (1919).

[6] For example, see *Brown v. Helvering*, 291 U. S. 193 (1934), also *Dixie Pine Products Co. v. Commissioner of Internal Revenue*, 320 U. S. 516 (1944).

[7] 256 U. S. 632 (1921).

1909 and 1913 corporation tax laws had been framed on a cash receipts and disbursements basis in an effort to achieve simplicity, and it was not until the Act of 1916 and subsequent regulations that even modified accrual accounting was countenanced.

One of the first cases[8] in which the corporate tax provision was involved in determining income from an accounting standpoint was that of *Fleischer v. Pelton Steel Co.*[9] This was an action to recover on a bonus contract which stipulated that the plaintiff, Fleischer, was to receive a bonus of a prescribed percentage of the company's 1917 earnings. The question presented was whether Federal income and excess-profits taxes were properly deductible as an expense incident to the operation of the plant, in order to determine the amount of its net earnings. In holding for the company, the court said, "We perceive no basis upon which it may properly be said that real-estate taxes may be deducted and income and excess-profits taxes may not be deducted. The nature of the liability is the same in each case. . . . While a tax is not in the ordinary sense a debt . . . because it lacks the element of contractual obligation, it is nevertheless a liability properly chargeable as an operating expense."

It will be noticed that, in its discussion, the court showed a conscious predilection for regarding all taxes in the same light. The citations given substantiate this, for the court cited as a precedent *Willcox v. Consolidated Gas Company*,[10] a case involving the deductibility of franchise taxes in determining income for rate-fixing purposes, decided before the advent of the income tax. It is also interesting to note that both the *Fleischer* and the *Ransome* cases cited a British case, *Patent Castings syndicate, Ltd. v. Etherington*,[11] despite the fact that both determination of income and tax liability in Britain differ from those concepts in this country. In this case it was held that excess profits taxes were assessed against the company, rather than the shareholders, and that such taxes were therefore deductible in determining the company's earnings. However, ordinary income tax was held not to be an expense, the court saying that "income tax is ultimately payable by the person who is entitled to receive the profits. A company pays income tax on behalf of the shareholder and the income tax payable on his dividend is treated as a part of his dividend, so that if he is in fact entitled to exemption he can recover the amount of the tax from the Revenue authorities." It thus appears that this case was cited in *Fleischer* and *Ransome* to substantiate the stand on the excess-profits tax but not the income tax, for the philosophy held by the British court that income tax is payable on behalf of the shareholder is the antithesis of the viewpoint held in this country. Here, "the corporation is treated as having an income and possessing a tax-paying capacity quite independent of its shareholders and, so far at least as the generality of corporations is concerned, without regard to the liberality or niggardliness of its dividend policies."[12]

The view set forth in the *Fleischer* case was reiterated in a similar bonus-computation case decided a year later. This was the *Richard Neeson v. The Sangamon County Mining Company* case,[13] in which the court said:

> "The words 'net profits' define themselves; they mean what shall remain, as clear gains of any

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[8] In an earlier case, *Ransome Concrete Machinery Co. v. Moody*, 282 Fed. 29 (1922), excess-profits tax was allowed as an expense in determining income for purposes of a profit-sharing agreement, but the court did not venture an opinion as to income taxes.

[9] 183 Wis. 451 (1924).

[10] 212 U. S. 19 (1909).

[11] 1 Ch 306 (1919).

[12] Kent Arthur H., "The Legal Machinery of the Present Corporate Income Tax System," *1947 Proceedings of the Fortieth Annual Conference on Taxation* (National Tax Association, 1947) p. 63.

[13] 316 Ill. 397 (1925).

business venture, after deducting the capital invested in the business, the expenditures incurred in its conduct, and the losses sustained in its prosecution . . . we think it is . . . clear that the plaintiffs in error (the company) are entitled to a credit of the amount of income tax they paid, which is necessarily an expense they must incur in the prosecution of their business . . . . The tax should be deducted for the same reason any other necessary expense of the business is deducted—because it is an expense necessarily incurred which cuts down the profits or net gains of the business."

The same results have obtained in cases other than those in which profitsharing or bonuses were contingent on income determination. In a 1943 case to force payment of dividends, *Amick v. Cable*.[14] it was held that "manifestly, the income tax, allowance for bad debts and the inventory adjustment are properly deductible in order to ascertain the net profits." In a 1947 case which involved rentals based on profits, *International Hotel Co. v. Libby*,[15] the court decided that income taxes and excess profits taxes were "ordinary and necessary" expenses incurred in the business. Here again the court intimated that such deductions were of the same character as other expenses: "The property could not be operated successfully without the payment of such taxes. They are as much an ordinary and necessary expense as the property tax. They are a burden of operating the property. Such taxes are to be expected in the regular course of business. Therefore they are ordinary. If the operation incurs the taxes, they must be paid to continue the operation and are a necessary expense."

### *The Tax Provision in Rate Determination*

The controlling case regarding the deductibility of taxes in determining net earnings for rate-making purposes is *Galveston Electric Company v. Galveston*.[16] In this case, the Supreme Court, speaking through Mr. Justice Brandeis, said, "All taxes which would be payable if a fair return were earned are appropriate deductions. There is no difference in this respect between state and Federal taxes or between income taxes and others." This position was reaffirmed a year later in *Georgia Railway & Power Co. v. Georgia Railway Commission*.[17] Both decisions dealt only with the normal income tax then in effect. With respect to excess profits taxes, however, there is no unanimity of opinion, although the weight of authority appears to be that they should not be allowed as deductions in determining net earnings for rate-making purposes. In *Charleston v. Public Service Commission*,[18] a case involving World War I excess profits, the court took the position that the *Galveston* case controlled only normal income taxes, and that excess-profits taxes should be paid by the corporation, not by its customers. The court expressed the view that if a rate were set to allow the company a fair return, it would not be in a position to pay excess-profits taxes. In *Detroit v. Michigan Public Service Commission*,[19] a more recent case, the opposite view was held. However, the court merely likened the excess-profits tax to the regular income tax and emphasized only the computation, rather than the effect of the tax. Here the court said, "The excess profits tax is somewhat similar to the income tax in that it is a tax the amount of which depends upon a certain net amount arrived at in part by deducting certain operating costs from gross revenues. . . . It is a tax that the utility is required to pay and necessarily a part of the costs of operation of that utility. In our opinion the commission has no discretion in excluding these taxes in determining the operating expense of the utility."

This view has not been supported by the

[14] 23 S. E. (2) 222 N. C. 484 (1943).
[15] 158 Fed. (2) 717 (1947).
[16] 258 U. S. 42 Sup. Ct. 36 (1922).
[17] 262 U. S. 625, 43 Sup. Ct. 680 (1923).
[18] 95 W. Va. 91, S. E. 398 (1923).
[19] 308 Mich. 706, 14 N. W. (2d) 784 (1944).

majority of the state commissions nor by either the Federal Power Commission or the Federal Communications Commission, who have disallowed excess-profits taxes as a deduction for rate-making purposes. The United States Supreme Court has evidently not yet heard a rate case involving the deductibility of the excess-profits tax.

In general, then, it can be said that the courts have regarded the regular income tax in the nature of an expense for the determination of earnings, and that excess-profits taxes have been regarded in the same light for ordinary income determination purposes but not generally for determination of rates in utility cases. It appears, therefore, that those who base their approval of tax allocation on the premise that the tax provision should be classified as an expense have been curiously negligent in not citing the legal view of the tax provision to buttress their argument.

# DEFERRED TAX CREDITS ARE LIABILITIES

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A corporation's taxable income is seldom the same as its reported income before taxes. There is little reason to believe it will ever be otherwise. The calculation of taxable income is only a step in the calculation of a tax assessment and the assessment of taxes involves political, economic, and administrative considerations, which are not relevant to the calculation of income in accordance with generally accepted accounting principles. The differences that occur in any one year can be divided into two categories, those that are permanent and those that arise from attributing revenues and expenses to some years for taxation purposes and to other years for accounting purposes, and that balance out over the entire lifetime of a business. The former do not present any accounting problems. The latter raise two questions:

(1) Should income taxes be charged against income in the years in which the taxable income is recognized and the taxes are assessed or in the years in which the accounting income is recognized?

(2) If taxes are charged against income in the years in which accounting income is recognized, what do the deferred tax balances, which arise from charging against income an amount different from the amount currently payable, represent?

These questions have become the subject of considerable controversy since the tax regulations were amended to permit much larger claims for depreciation in computing taxable income in the early years of an asset's useful life than are used in computing accounting income. The questions will be dealt with here by specific reference to the depreciation problem but the principles which evolve are of general application.

Income is measured in accounting by first determining what the revenues for the year are and then charging against those revenues the expenses that were incurred in earning them.[1] The first question to be answered is whether income taxes are an expense. An economist could argue that insofar as the corporation is concerned income taxes are less of an expense than dividends, that both interest and dividends represent costs of obtaining funds with which to operate while income taxes represent a distribution of the residual profit left in the hands of the corporation, the corporation being an individual separate and distinct from its stockholders under the law.[2] This may very well be the most logical view to take. If this view is taken however, it requires that undistributed earnings be separated from stockholders' equity. To include surplus in stockholders' equity is to assert that the equity of the corporation and the equity of its stockholders are synonymous. If this second view is taken, as it usually is, then income taxes must be regarded as an expense.

If income taxes are considered an expense, they must be charged against revenues in the same way as other expenses, that is, the taxes incurred in earning income must be charged against that income in the same year the income is recognized in the accounts. Therefore, if governmental regulations require accounting income to

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[1] Throughout the discussion the current operating concept of income has been adopted to avoid misunderstandings about whether an item included in the calculation of income pertains to a previous year.

[2] See Moonitz, "Income Taxes in Financial Statements," Accounting Review, April 1957, p. 181 and Thomas M. Hill, "Some Arguments against the Inter-Period Allocation of Income Taxes," Accounting Review, July 1957, p. 357, for more extended discussions along these lines.

be shifted from some years to others in order to determine taxable income, the taxes so determined must be adjusted to compensate for that shift, in order to determine the amount of tax expense applicable to each year. In other words, income tax expense for each year must be calculated on accounting income adjusted for permanent differences between accounting and taxable income but not adjusted for differences in the timing of recognition of the two. To argue otherwise would be comparable to arguing that income should be recognized on a cash rather than an accrual basis. This is particularly obvious when one considers that corporation managements can shift taxes payable to some years from others simply by deferring claims for depreciation allowances.[3]

It is sometimes argued that no adjustment need be made to taxes payable in order to determine tax expense where depreciation claimed for tax purposes exceeds depreciation charged in the books on the ground that the current tax reduction so achieved is a permanent gain and not merely a shift in taxes payable to future years.[4] It is held that as long as a firm maintains or expands its investment in depreciable assets, the higher than book claims for tax allowance on the new assets will offset the lower than book claims available on the older assets, so that the tax reductions achieved in the early years will never become payable. As has been pointed out by earlier writers on the subject,[5] this position ignores the fact that tax deferments obtained in earlier years become payable after a very few years and are simply replaced by new tax deferments. That is, it ignores the revolving nature of the deferment and regards it as a single homogeneous unit without regard to the factors that give rise to it.

Even if one is willing to accept such a view, the circumstances in which such a deferment would be permanent are extremely unlikely. They are either that the corporation will never die nor permanently decrease its investment in depreciable assets; or that before the deferment becomes payable the corporation will begin to suffer losses to the extent that no taxes are payable even with the reduced depreciation allowances available and that these losses will continue until all of the company's depreciable assets have been dissipated; or that before the deferment becomes payable the government will change the tax regulations in such a way as to make it permanent. It is quite possible of course, that part of the deferment could become permanent through a change in profit levels or in tax rates and this possibility will be considered later. The entire deferment, however, could not become permanent except in one of the three ways described.

No business lasts forever. It would hardly be correct therefore, to consider deferred taxes a permanent gain on the ground that a business will never die. The going-concern assumption can not be used to justify such an interpretation. The going-concern assumption is made in order to provide a basis for allocating long-term costs and revenues and requires only that one assume the business will last longer than any of its assets or liabilities. It is an unwarranted extension of this assumption to interpret it to mean that all going businesses have infinite lifetimes.[6] In addition to the assumption of an infinite lifetime

[3] It is true of course, that management usually has some degree of control over and thus can change the amount of every type of expense, to a limited extent, by changing operating methods. Such changes cannot be brought about however, simply by the stroke of a pen and without changing other expenses or revenues.

[4] See J. W. Crowe, "A Look at Depreciation and Income Taxes," *The Canadian Chartered Accountant*, July 1956, p. 45.

[5] George C. Richardson in "Accounting Research," *The Canadian Chartered Accountant*, June 1957, p. 522; Willard J. Graham, "Allocation of Income Taxes," *The Journal of Accountancy*, January 1959, p. 57.

[6] One might even inquire whether there is such a thing as a going-concern assumption. A business is accounted for as a going-concern only when it is in fact a going-concern. If it is not a going-concern, it is not treated as such. Where is the assumption?

the first set of circumstances which would justify regarding the tax deferment as a permanent gain requires that no permanent decrease in the investment in depreciable assets should ever occur. Even a temporary decrease in this investment could easily result in part of the tax deferment coming due and one could only justify ignoring it at the time that happened by proving that the decrease was in fact temporary, a very difficult thing to do.

The other two sets of circumstances which would produce a permanent gain, although highly improbable, are not absolutely impossible. It would not be correct however, to take up a gain on the strength of only a very remote possibility. If the circumstances should occur to make the gain permanent, the time to recognize that gain would be the time of its occurrence, not the time of deferment. This point will be considered in more detail later.

It has been argued that even though the deferment may not be a permanent one, it will be deferred for such a long period of time in many cases that the amount ultimately payable, if discounted to its present value, would be insignificant and therefore could be ignored.[7] This is probably true but it is not current accounting practice to discount amounts payable a long time hence and reflect only their present value in the accounts. Such a procedure may be desirable. If so, it should be applied to all long term items, not just one particular type of item.

Accounting principles aside, the most telling argument against regarding a tax deferment as a gain lies in the fact that the value of a business to a prospective purchaser is less to the extent that taxes have been deferred.

If an adjustment is made to taxes assessed in order to determine tax expense, what does a deferred tax credit balance thus created represent? Every possible answer to this question has been offered. A credit balance must be a revenue or reduction of expense, an asset valuation allowance, a liability, or a part of the ownership equity.[8] As explained above, some accountants hold that the credit is a revenue or reduction of expense and therefore oppose making any adjustment. The reasons for not adopting this view have already been given. It has been suggested that this treatment is satisfactory provided that a footnote is attached to financial statements describing adequately what has been done.[9] However, as has been pointed out by other writers,[10] the provision of footnotes to financial statements is not a satisfactory substitute for the application of sound accounting methods.

The Institute of Chartered Accountants in England and Wales has suggested that deferred tax credits might be considered to be reservations of surplus.[11] Others have likened them to deferred maintenance reserves.[12] The usual argument against this interpretation is that it is not reasonable because you can not increase accumulated

[7] Thomas M. Hill, "Some Arguments Against the Inter-Period Allocation of Income Taxes," ACCOUNTING REVIEW, July 1957, p. 357.

[8] It has been suggested by the research committee of The Canadian Institute of Chartered Accountants that "deferred credits" represent still another category of credit balance. This contention is considered later.

[9] G. M. Smith in a minority opinion in Bulletin No. 10 of the Committee on Accounting and Auditing Research of The Canadian Institute of Chartered Accountants, September 1954.

[10] Ralph S. Johns, "Allocation of Income Taxes," *The Journal of Accountancy*, September 1958, p. 41.

[11] Recommendation 19, Recommendations on Accounting Principles, The Institute of Chartered Accountants in England and Wales, October 1958. This interpretation appears to be based on legal requirements as to the use of accounting terms rather than on accounting principles.

[12] Thomas M. Hill, "Some Arguments Against the Inter-Period Allocation of Income Taxes," ACCOUNTING REVIEW, July 1957, p. 357. A deferred maintenance "reserve" is not a reservation of surplus of course, if it represents amounts which should have been spent to maintain assets in good working condition but were not, or the accumulation of amounts for definite maintenance projects through regular charges against income. Such "reserves" are asset valuation allowances and should be deducted from the cost of the assets to which they pertain.

earnings by decreasing earnings.[13] That is true as far as it goes but it does not cover the possibility of considering deferred taxes to be a form of contributed surplus, contributed by the government, in effect, through a reduction in tax claims. It would not be unreasonable to reduce earnings on the basis of this interpretation. The argument against this interpretation falls back on the fact that the deferment is not a permanent one unless most unusual circumstances should occur. Only an absolute gift would qualify as contributed surplus, not a long-term loan.

The Committee on Accounting Procedure of the American Institute of Certified Public Accountants has suggested that deferred tax credits might be interpreted as asset valuation allowances[14] on the premise that the value of a depreciable asset is comprised of two factors, its value in use and its value as a claim against taxable income. This view is supported by the observation that a business which has used up more of its tax allowance claims in respect of depreciable assets is worth less to a prospective buyer. But the fact that the business as a whole is worth less does not necessarily mean that any of the individual assets is worth less. The net worth of a business consists of the value of its assets minus its liabilities. An increase in liabilities decreases net worth equally as much as a decrease in assets.

Is the value of depreciable assets reduced by tax allowance claims made in respect of them? Certainly there is no loss of value in any physical sense; the assets are no less productive. Replacement policies are not affected, since the amounts ultimately claimable in respect of assets can not be changed by the timing of replacements. Tax deductibility is not inherent in an asset. It only exists if the asset is being used by a profit-making organization and then only if a profit is earned. The value of an individual asset to a prospective purchaser is not affected by the amount of depreciation that has been claimed against it for tax purposes by its present owner. It is only when an entire business or a share in an entire business is being purchased that previous tax claims for depreciation have any effect on value. The tax deductibility of assets attaches to the business, not to the assets.

As indicated earlier, income tax deferments have been likened to deferred maintenance "reserves." It might be inferred from this that if deferred maintenance "reserves" are asset valuation allowances, then so also are deferred taxes. But there is a fundamental difference between deferred maintenance and deferred taxes. If maintenance is deferred, assets are worth less physically. This is not the case when taxes are deferred.

One might inquire whether the asset valuation interpretation would be an acceptable one if tax expense adjustments produced a debit balance rather than a credit. Would it be proper to increase the value of an asset on that basis? If the tax authorities disallowed a write-down in the value of inventory in the current year, for example, so that the recognition of a loss for tax purposes was deferred to the future, would it be proper to reduce the amount of the write-down by the amount of the tax prepayment, or would it not be better to treat the tax prepayment as a separate item? This point can not be pressed too far, since debit balances are frequently treated differently from corresponding credits on the ground of conservatism, but it has some relevance.

Finally it should be pointed out that a deferred tax balance arises in the first place from the fact that tax allowances for de-

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[13] Lawrence G. Macpherson, "Capital Cost Allowances and Income Taxes," *The Canadian Chartered Accountant*, December 1954, p. 353.

[14] Accounting Research Bulletin No. 44 (Revised), Committee on Accounting Procedure, American Institute of Certified Public Accountants, July 1958.

preciation are not considered a proper basis for measuring depreciation expense in the accounts. To adjust asset values for differences in tax expense resulting from this disagreement over the extent to which the value of the assets has been consumed, is to defeat much of the original purpose of charging a different rate of depreciation for accounting purposes than for taxation purposes. The resulting net asset balances do not then represent the extent to which the original cost of the assets still remains to be used up in production as estimated by the management but, instead, a compromise figure somewhere between what the management estimates and the tax regulations allow.

If deferred taxes do not represent a revenue or reduction of expense nor a portion of ownership equity nor an asset valuation allowance, then by process of elimination one must conclude that they represent a liability. The research committee of The Candian Institute of Chartered Accountants states, however, that there is one other category of credit balance, the "deferred credit," and that deferred taxes belong to this category.[15] A deferred credit is defined as "A credit balance applicable to the income measurement of a future period or periods; an amount of revenue received (or recorded as receivable) but not yet earned. Sometimes applied to an amount received (or recorded as receivable) that represents a reduction of future expenses, e.g., premium on issue of bonds."[16] The Canadian committee states explicitly that these deferred credits are different from liabilities and that deferred taxes should be allocated to income in the periods "in which the corresponding depreciation expense is recorded" and that they "need not be adjusted to reflect subsequent changes in tax rates or possible future changes in methods of making tax allowances for depreciable property."

To begin with, this position denies one of the fundamental premises of accounting, that assets minus liabilities equals ownership equity and that income consists of the increase in net assets. Try to tell a business man that in order to calculate his equity he must deduct from the value of his assets not only his liabilities but also an animal called a deferred credit. Granted, the balance sheet is frequently a poor measure of real worth but it is not altogether meaningless.

The illogic of the Canadian position becomes obvious when one considers the results it would produce if the tax regulations were changed in such a way as to make deferred taxes a permanent gain.[17] A corporation would be expected not to take this gain into surplus except through income in the remaining years in which the assets that gave rise to the gain were depreciated. This in spite of the fact that both of the conditions necessary to the permanent realization of the gain, the tax claim and the change in tax regulations, had been fulfilled. Consider too the possibility that a loss year (in both the accounting and the taxation sense) could be transformed into a profit year by the feed-back of deferred tax credits. The profit would result from the fact that a reduction in income taxes claimed in prior years had been allocated to the loss year. How can you allocate a reduction in tax expense to a loss year in which no tax expense exists?

But, it may be argued, deferred credits are a well-known accounting phenomenon and it is not uncommon to write them off against income on a semi-mathematical basis such as is advocated for deferred

[15] Bulletin No. 10 of the Committee on Accounting and Auditing Research of The Canadian Institute of Chartered Accountants, September 1954.

[16] Accounting Terminology, a project sponsored by the Committee on Accounting and Auditing Research of The Canadian Institute of Chartered Accountants, 1957.

[17] The possibility of deferred taxes becoming a permanent gain in total is extremely unlikely, as mentioned earlier. The possibility of part of the deferred tax balance becoming a permanent gain through a change in tax rates or profit levels, however, is not at all unlikely.

taxes by the Canadian committee, without regard to the time at which they are actually realized. The answer to this is that deferred credits are really liabilities, not necessarily liabilities in the legal sense but liabilities in the economic sense, and a mathematical basis of a write-off, when used, is simply an attempt to approximate economic realities. Amounts received in advance of the delivery of goods or services are frequently described as deferred credits to income. They are obviously liabilities. They represent obligations of definite amount to definite individuals. The corporation must either provide the goods or services in respect of which the amounts were received or return those amounts. Credit balances are frequently set up to cover such things as estimated future claims against warranties and described as liabilities even though neither the precise amount payable nor the individuals to whom it will be paid are known. Premium on bonds issued is usually described as a deferred credit and written off on a mathematical basis. But the premium on bonds account balance simply represents the difference between the legal liability at the date of bond retirement and the economic liability at the date of bond issue. Insofar as the measurement of income and financial position is concerned, it is the economic position that is significant, not the legal position. The bonds could not be redeemed on the date of issue for the amount of the legal liability; the corporation would have to pay the market price, which would be the price of issue. It would be just as unrealistic therefore to show as the bond liability the amount payable on retirement as to write off the bond premium to income on the date of issue. The deferred credit is equally as important to a correct statement of liabilities as it is to a correct matching of revenues and expenses. There are perfectly good reasons for writing bond premiums off over the lifetime of the bonds on a mathematical basis. The price of issue and the price of retirement of the bonds are determined at the time they are issued. At any time between issue and retirement, the market price that would have to be paid to redeem the bonds (i.e., the economic liability) could be determined by adding to the legal liability the unamortized portion of the bond premium. This ignores market fluctuations of course, but it is not current accounting practice to adjust account balances for temporary fluctuations in market prices.[18]

The argument against regarding deferred taxes as a liability hinges on the fact that although it is almost certain they will have to be paid eventually, they do not happen to be a legal liability until they are assessed. But accountants have long since recognized that they can not rely entirely on legal concepts in the measurement of economic phenomena, hence the setting up and amortizing of such things as premium on issue of bonds. Assets purchased on the installment plan are recorded as assets at full purchase price at the time of purchase, even though title may not pass legally until all payments have been made. There could be no objection to distinguishing between legal and economic liabilities by describing the non-legal type by some other name such as deferred credits, as long as it was generally understood what the term meant. Unfortunately, however, as the conclusions of the Canadian committee indicate, that does not appear to be the case.

Closely related to the objection to considering deferred taxes a liability on the ground of legality, is the argument that the government does not recognize that any such obligation exists.[19] But what the government recognizes is not significant to the way in which accounts should be kept.

[18] Even if one refused to accept this liability conception of premium on bonds on the ground that the premium will never have to be paid, it would not justify regarding deferred taxes as anything but a liability. They will have to be paid.

[19] Thomas M. Hill, "Some Arguments against the Inter-Period Allocation of Income Taxes," Accounting Review, July 1957, p. 357.

If it were, there would be no problem over deferred tax credits, since accounting income and taxable income would be the same.

The only real difficulty involved in regarding deferred taxes as a liability lies in the fact that the taxes ultimately payable would be different from the taxes estimated at the time the income was recognized, if profit levels or tax rates changed in the meantime. If the difference was significant, the deferred balance would have to be adjusted. The necessity of estimating and possibly later adjusting a liability is not unusual, however. If profit levels or tax rates increased, the tax deferment would be less than the amount ultimately payable. This would require a transfer of the difference from surplus to deferred taxes. A decrease in profit levels or tax rates would have just the opposite effect.[20] The need to adjust the liability in each case is obvious. The need to adjust surplus arises from the fact that estimates of tax expense made in prior years were in error. The original estimates were made by applying the tax rates in effect at the time of accounting income. But those tax rates did not apply to the entire accounting income, only to the taxable portion. The tax rates applicable to the difference are those in effect when that difference becomes taxable income. The tax on the difference must be recognized as expense in the period in which the difference is recognized as accounting income, but the actual amount of that expense is determined by the total amount of taxable income and the tax rates in effect when the difference becomes taxable income. The original calculation of this expense is only a reasonable estimate, based on the assumption that profit levels and tax rates will remain constant.[21]

Throughout the discussion it has been assumed that deferred taxes are credits. If differences between accounting income and taxable income produced a debit balance of deferred taxes, it would fall into the asset category of deferred charge, the deferred charge, unlike the deferred credit, being a generally understood accounting term used to describe prepayments. It might be argued on grounds of conservatism that a debit balance should be written off immediately rather than set up as an asset. There is no less reason why a prepayment of taxes should be set up as an asset, however, than a prepayment of research and development costs for example. Conservatism can be carried too far. Consistency is also imporant.[22] With the possible exception of this one point, the principles which apply to deferred tax credits apply also to deferred tax debits.

[20] On the ground of conservatism, the evidence required to justify a transfer from deferred taxes to surplus would have to be more substantial than to justify a transfer from surplus to deferred taxes.

[21] If this assumption is not warranted, then the original estimate of income tax expense is not reasonable.

[22] For more extended discussions of this question see Hans J. Shield, "Allocation of Income Taxes," *The Journal of Accountancy*, April 1957, p. 53, Ralph S. Johns, "Allocation of Income Taxes," *The Journal of Accountancy*, September 1958, p. 41 and Willard J. Graham, "Allocation of Income Taxes," *The Journal of Accountancy*, January 1959, p. 57.

# THE FIVE-YEAR ACCOUNTING PROGRAM—WITH DUE AND DELIBERATE SPEED*

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TODAY, whenever a prominent member of the accounting profession advocates a "five-year accounting program," his expression of opinion no longer makes "page one" copy. Twenty years ago the American Institute of Certified Public Accountants (then the American Institute of Accountants), through committees and its Council, recommended that the study of accounting be concentrated in a fifth year following a four-year undergraduate arts and sciences program.[1] In recent years this approach to the problem of accounting education has been affirmed by the Commission on Standards of Education and Experience for CPA's The idea has been underscored many times by articles in professional journals, by discussions at professional meetings such as this one, and by the fact that there are now in some universities well-planned and carefully-conceived five-year accounting programs.

A five-year accounting program, then, is now a fact of life for some of us. The trail has been blazed. If the trail seems interesting—if a five-year accounting program is indeed a proper and workable vehicle for teaching accounting, increasingly large numbers of accounting educators will be asking themselves and their colleagues, "Should we adopt a five-year program?"

The purposes of this paper are three: (1) To demonstrate that the philosophy which underlies the concept of a five-year accounting program is valid and that the objectives of the program cannot be attained in less than five years of normal academic study; (2) to suggest the principles which should support any school's decision to adopt a five-year accounting program; and (3) to sketch the outline of a desirable five-year accounting program.

## UNDERLYING PHILOSOPHY

### *Education not training*

A fundamental assumption inherent in any five-year accounting program must be that the purpose of a university undergraduate program is to educate the student rather than to train him. The implied objective of such a program is to place emphasis on stimulating and motivating the student to learn because education is of value *per se* rather than because it is a means to acquire a skill which will provide a livelihood.

The educational system in the United States utilizes the "course" as the mechanistic framework for imparting knowledge. Implementing the "education not training" objective requires that the content of a course be part of the fund of human knowledge which should be acquired because of its intrinsic value. Furthermore, the ideas and concepts of such courses should be presented in an analytical and interpretive manner which will stimulate logical and independent thought. Courses which merely describe historical or current fact do not meet these criteria.

"Education" of the student is not to be

* This paper was presented at the annual meeting of the Southeastern Section of the American Accounting Association at Florida State University on March 6 and 7, 1959.

[1] *Standards of Education and Experience for Certified Public Accountants*, a report of the Commission on Standards of Education and Experience for Certified Public Accountants. Bureau of Business Research, University of Michigan, 1956, p. 65.

accomplished by having him memorize without understanding, define without comprehending, or parrot without interpreting any given set of data or historical facts.

"Education not training" and other similar phrases have been used so often in the past few years to justify "five-year accounting programs," "return to the fundamentals," "the liberal approach," and other similar objectives that the phraseology sounds almost trite. The idea which it expresses is certainly not trite, however. Independence of thought, ability to reason and to cope with new and unprecedented situations, and intellectual awareness in a variety of spheres of knowledge are qualities which universities should strive to instill in students. While it is true that the university does not bear alone the responsibility for implanting these qualities in individuals, certainly the university should not imperil the attainment of this goal by working at cross-purposes to it.

*General knowledge should precede specialized knowledge*

One of the fundamental ideas underlying the five-year accounting program is that the student should acquire knowledge of much of the area of human endeavor and behavior *before* he begins to acquire intimate knowledge of his chosen profession. The implications of this belief are profound and far-reaching in their effects.

The process of learning is largely one of absorbing and evaluating knowledge acquired whether by experience or by formal educational processes. It follows logically, then, that the most recently acquired knowledge will be related to and evaluated in the light of prior experiences. As the student progresses and matures, his store of knowledge and experience should increase. Courses placed in the latter stages of his formal education should be more keenly appreciated and better understood than were courses undertaken at an earlier stage in the program. It would seem to follow that the student should be exposed relatively quickly to as many areas of human endeavor and behavior as possible, subject to the constraint that a significant degree of depth and penetration should be accomplished in each area. The advantages of such an approach seem clear; having been exposed to a broad base of general knowledge, specialized knowledge can be better appreciated and specialized skills used with selectivity and discrimination in larger areas of applicability than would be the case had the specialized knowledge been acquired before the general.

There is also a practical reason for advocating that general knowledge be acquired before specialized knowledge. The student who pursues a general curriculum will often remain in the university to acquire a speciality. The student who first acquires a specialty too often succumbs to the temptation to ply his immediately salable skill. The result might easily be a long-run loss to self and to society through failure to fully develop the individual's potential.

*Amount of general knowledge required is extensive*

Another assumption underlying the five-year accounting program is that the body of general knowledge which should be acquired by the professional accountant is so large that, even if highly specialized accounting education were desirable at the undergraduate level, there would be insufficient space in the curriculum to accommodate it. This assumption clearly implies impropriety of excessive concentration in any one area of study. In the light of the basic philosophy, "excessive concentration" may be defined as that amount which would tend to make the individual especially proficient in any one area where such proficiency is attained at the expense of

other areas. The significance of this implication for accounting education seems abundantly clear; the basic concept of a five-year accounting program is totally inconsistent with a high degree of specialization on accounting at the undergraduate level, and such specialization is to be discouraged. This assumption implies also that the accountant with a narrow background is at a disadvantage, and that, at least at the undergraduate level, there are areas of study which not only should precede the study of accounting *per se*, but which at this time are of greater importance to the accountant of tomorrow than the study of accounting.

*Undergraduate work undertaken should have intrinsic value*

The belief that there exists an extensive body of general knowledge which is necessary to the development of the professional accountant must also imply the existence of some criteria for determining whether a proposed offering should be included in this area of desirable knowledge. If the criteria mentioned earlier in this paper are valid, their uniform application to any element of a proposed five-year accounting program is appropriate. These criteria are: (1) The content of any course must be part of the fund of human knowledge which should be acquired because of its intrinsic value, and (2) the ideas and concepts of such courses should be presented in an analytical and interpretive manner which will stimulate logical and independent thought. These tests should be applied both to arts and sciences and to business courses, including accounting courses. For the business and accounting courses, the first criterion must be interpreted in a more limited sense to mean "fundamental to the economic universe." *Courses which merely describe historical or current fact do not meet these criteria.* Courses which are purely descriptive in nature or which aim only to promote technical proficiency are inconsistent with the philosophy of a five-year accounting program unless the technique is vital to the understanding of other courses which have intrinsic value.

The philosophy which underlies the five-year accounting program implies a high degree of selectivity in choosing the business courses to include in the program, for there is little in the conventional business school curriculum which is part of a fundamental core of knowledge or which has intrinsic value.

Under a five-year accounting program, it seems appropriate that the undergraduate accounting offerings should be subject to the same tests of validity as non-accounting business offerings. The first course in accounting should be taught in such a manner as to make the content of nearly universal appeal. Subsequent undergraduate accounting offerings should be taught in such a way that they might consitute a kind of course that any student interested in business and economics might find useful. The general rule can be applied to Cost Accounting, which could emphasize the control function of accounting; to Auditing, which could emphasize ethics and professional responsibility; and to Federal Income Taxation, which should be oriented around the general philosophy of income taxation rather than around the details and mechanics of the statute, the regulations, and judicial and administrative interpretations.

The underlying philosophy of a five-year accounting program, then, seems to imply the necessity for evaluating critically the content of the entire undergraudate curriculum. The benchmark on which this evaluation rests—intrinsic value as a requisite for a course offering—is an extremely valuable and desirable one to use.

We have before us a new challenge, a proposal to adopt an integrated five-year program. Its consideration is merited if

only for the reason that it presents an opportunity for self-examination and for re-orientation (or reaffirmation) of one's own views about the teaching of accounting.

*The professional accountant is a business executive*

The most important implication of a five-year accounting program is that the role of the professional accountant is clearly defined as a leading part in the play of life. The expanding role of the CPA is recognized in every premise on which the five-year accounting program rests. The professional accountant envisaged by a five-year accounting program is one who has stature, ability, and judgement. He is able to serve business, not as a record keeper or checker, but as a consultant, advisor, and friendly critic. (Nothing which has been stated here should be interpreted to deny that some professional accountants have been playing this role successfully for years. The achievement of a five-year accounting program will be that *more* accountants will play this role.) Finally, the implications of the development of electronic mass data processing devices are clearly recognized, namely, that in the years ahead the scorekeeping function of the professional accountant will become of increasingly less importance, and his executive and advisory functions will occupy the greater proportion of his time.

*Summary of Underlying Philosophy*

The "broad, general education" of depth and extensiveness as a preface to accounting specialization is the keynote of any proposal to devote five years to formal education for a career as a professional accountant. "Broad, general education" must still imply some selectivity, for it is impossible to comprehend the entire sphere of human knowledge. The criterion for selection of the course offerings to be included in any five-year accounting program must be that any proposed course be "intrinsically valuable." This implies that fashioning of a five-year accounting program must not be a mere process of assembling courses from those currently available. Rather, a five-year program should represent craftsmanship. Course offerings in the arts, the sciences, and in business (including accounting courses) should be appraised critically to determine whether they meet the test of intrinsic value. As a practical fact, the *first* step in fashioning a five-year accounting program may have to be a re-orientation of *non-accounting courses* in business administration.

Viewed in this light, the idea of a five-year accounting program seems valid. The emphasis that it places on the future role of the professional accountant as a consultant, advisor, and critic of business is inspiring and realistic. The challenge that the advocacy of a five-year accounting program presents should at least inspire critical self-appraisal of existing curricula, even if the result should be affirmation of present programs and procedures.

## ARE YOU READY TO ADOPT A FIVE-YEAR ACCOUNTING PROGRAM?

In the preceding section of this paper the basic assumptions and philosophies of a five-year approach to accounting education were examined. Now is the time to raise a very large "Caution" sign. The best interests of the profession will be served if a five-year approach to accounting education is universally adopted. But the best interests of the profession will be served if the transition is accomplished with deliberation and naturalness. The five year approach to accounting education has profound implications. The changes contemplated are not of form but of substance, and they should be made only when the climate is right. Unless each

of the following questions can be answered properly, it may be wise for your school to defer adoption of a five-year accounting program.

1. Do you agree with and support in substance the principles and objectives (including implications) of the five-year accounting program which were stated in the preceding section? Certainly it would seem that this would be the most obvious prerequisite to adopting a five-year accounting program.

2. Are you willing to abandon the idea that a student will be able, at the end of four years, to pass the CPA examination, to be immediately proficient in the application of accounting skill? If you have been achieving any significant degree of success along these lines in your traditional four year accounting curriculum, forsaking this objective may be a traumatic experience. Yet it must be abandoned, for it is completely incompatible with the objectives of a five-year accounting program. The implicit assumption of the five-year approach is that the job cannot be done in four years. If you can attain the objectives of the five-year program in four years, then the five-year program is unnecessary. If the five-year program is necessary and desirable, you are omitting important and vital courses for the sake of winning superficial signs of achievement such as technical proficiency and good grades on the CPA examination.

3. Do you have the time to develop the new course material and the new techniques which should accompany the five-year accounting program? *Adopting a five-year approach to accounting education is not just a matter of moving the same courses that are taught in the four-year approach to a one-step higher level.* Accounting can be taught to sophomores much more effectively than to freshmen. Different techniques can and should be used. The higher the level, the more effectively can accounting be related to other areas and the more readily can abstract concepts be grasped. The changes that can and should be made in the accounting courses which are moved from the fourth to the fifth year are extensive in scope. Since a number of accounting courses will be taken simultaneously, a better job can be done of relating them to each other. Since the student will have completed the "general" phase of his education, all the accounting courses of the fifth year will benefit from the richer background with which the student approaches them. It would be a mistake not to take advantage of this greater maturity and perspective by materially altering the course content.

4. Is your "political" climate right for adopting the five-year approach to accounting education? Are the philosophies which underlie the five-year accounting program consistent with those of your school? Or do a substantial number of the members of your accounting department believe that "accounting is learned by doing," "that the point of a pencil is the pipe through which accounting knowledge flows," that this whole concept that a "broad, general education" is a necessary part of the education of the professional accountant is ridiculous? Do you feel that you must serve the immediate needs of the practicing profession, that your graduating senior should be able to "do" accounting almost immediately and with some skill?

5. Are the non-accounting offerings in your school of business—and the course offerings in your liberal arts and sciences college—of such quality that any *real* purpose would be served by reducing your undergraduate accounting offerings? In many schools of business administration accounting seems to be the only discipline with substance. Reducing the undergraduate accounting electives would only leave a gap to be filled by a less useful course.

6. If the answer to the previous question

is in the negative, is there a possibility for improvement? Are inter-departmental relations and inter-college relations such that real progress could be made in making specifically tailored courses available for accounting students?

7. Is the quality of your student body such that it could pass without serious attrition reasonably rigorous courses in the arts and in the sciences? A five-year accounting program will result in a more difficult curriculum than is now generally pursued by the business administration student who is an accounting major. At least initially the rate of attrition may rise. In the long run the result will be to attract a higher caliber student to the accounting profession, but the transition may be painful.

8. Do *you* believe that universal adoption of a five-year accounting program would be to the long-run benefit of the accounting profession?

## FRAMEWORK FOR A FIVE-YEAR ACCOUNTING PROGRAM

The remainder of this paper is an artist's sketch of the broad outlines of a five-year accounting program. Courses are not viewed or defined in terms of semester or quarter hours, nor is any attempt made to designate specific courses which should be included in the program. The amount of material that can be satisfactorily covered within a given period of time varies with the quality of the student body, the level at which the course is taught, and the ability of the instructor. The purpose of the ensuing material is to spotlight the areas of knowledge which should comprise the elements of five years of formal education for the professional accountant. It is almost redundant to emphasize that the justification for a five-year approach to accounting education must be found in its obvious superiority to a four-year approach.

### *Which administrative jurisdiction?*

The choice of colleges for the administration of the accounting program is not the immediately obvious one that it might seem to be. The question is an extremely complex one and, at least at the present time, no solution can be obtained which will be universally satisfactory. The test which must be applied is: "In what setting will it be possible to come closest to the ideal of setting our own standards and fashioning our own curricula?" The obvious answer is the independent accounting school, separate from both the business school and the arts and sciences colleges. The obvious answer is not the one which many would choose if the election had to be made today.

Probably the best solution at the present time is for each to work within his present environment to bring about the kind of five-year accounting program which he thinks desirable. In many schools this will be a slow, tedious, even tortuous process. Yet the needs of the undergraduate accounting student are so closely related to those of the non-accounting business student that joint effort to improve the curriculum for the general good of all should be an eminently desirable undertaking. The objectives of the business school *should not be inconsistent* with the objectives of accounting education, and there is no reason why a business school curriculum should not accommodate comfortably the requirements of a well-fashioned five-year accounting program.

### *Immediate or delayed registration in the program?*

"Broad, general knowledge" does not connote unplanned, unsupervised scheduling of a "bunch" of liberal courses. The virtue in a five-year accounting program lies at least in part in its carefully planned integration of courses. It is desirable, therefore, to direct the student at the earliest

possible stage in his career, even if the result of such direction is merely to restrict the "liberal" courses which he might elect to those that are "intrinsically valuable."

### *The First Two Years*

The student's first two years' work should be predominantly outside the business administration area. There seems to be no overriding consideration which dictates preference for scheduling of introductory accounting either in the second rather than the third year, or in the third rather than the second year. There is some merit in introducing the student to Economics in his second year. With the one qualification noted below, there would seem to be no need for the student, even though registered as a business administration student, to come into contact with the school except for administrative reasons.

To offset the obvious disadvantage of being registered in a school in which the student takes no courses, at Tulane we have employed an extremely successful and popular device which has come to serve another very useful purpose. During one hour of each week during both the first and second years, the students meet together in a one-hour credit course to discuss current business events. Assigned readings are in the *Wall Street Journal*, *Fortune*, *Business Week*, the *Commerical and Financial Chronicle*, and similar business publications. Every week the students are required to write a short essay on designated events. This is not the traditional introduction to business course, but it serves the same purpose without duplicating the work which will be undertaken later in the regular business curriculum.

*Mathematics.* The study of mathematics is valuable *per se*. This fact, coupled with the increasing importance that is being attributed to the subject in some areas of business, seems to dictate that the study of mathematics should be given some prominence in the basic curriculum. (There have been major developments in mathematical concepts since most of us who are now teaching were undergraduate students, and it is a matter of serious concern that we are unable to judge critically these developments. Until we are able to make this judgment, support should be given for a heavy concentration of mathematics in the curriculum because the study of mathematics is valuable within its own right.) Appropriate areas of mathematics would seem to be Finite Mathematics and the Calculus, with some emphasis on the mathematics underlying statistical method.

*English.* (Who has not heard, "Students can't write and they can't spell!") A very strong concentration in English is desirable. Grammar, composition, and literature are all important. More than one year is highly desirable.

*Foreign Language.* The desirability of requiring or permitting only the traditional two years of college Spanish (or French, or German) is at least questionable. The student should elect some other course or be required to pursue the language to a point of fluency.

*Sciences and Arts.* In these areas it is probably desirable that the student be permitted a relatively high degree of flexibility, subject to the constraint that he become familiar with at least one physical science, one natural science, one social science, and one or two of the arts. Chemistry, Physics, Biology, Geology, History, Sociology, Anthropology, and Music are all examples of courses which might meet the test of worthwhileness. The permitted elective courses in these areas should probably vary with the local environment.

### *The Second Two Years*

These are the years which will prove the more difficult to fashion. The underlying philosophy should be one of permissiveness

within business school environment. There are certain areas of business with which the student must be acquainted. Marketing, Production, Statistics, Industrial Relations, Finance, and Management are the important and most frequently encountered ones. The professional accountant of the future *must be* familiar with each of these, but it is not necessary that he schedule extensive work in any of these areas. What *is* of the utmost importance is that each of these areas of study be presented in an analytical and interpretive framework rather than in a descriptive one. It is not enough that the student should learn the methods of marketing which are employed in this country. He must also understand the logic which made them necessary. Industrial Relations can be presented to the student as a history of the labor movement in this country, or as a list of factors which keep employees happy, or as a real challenge to the student to understand the problems facing both management and labor. There is virtue only in the latter.

One fact must be repeatedly emphasized: *There are no immutable principles of business administration.* Business is an economic kaleidoscope which never repeats the same pattern. Each business situation must be dealt with on its own merits, and unless the business administration curriculum is oriented to this fact rather than to the idea that there are unchangeable principles to be learned, it falls short of the ideal envisaged by the five-year accounting program.

As a rule of thumb, one semester in each of the indicated business areas should be enough for the accounting major. He *does* need to be exposed to each of these areas.

The last two years should not be composed solely of business courses. Continuing work in the sciences and the arts should be encouraged.

*The accounting segment of the five-year accounting program*

Within the five-year accounting program there is no place for different introductory courses in accounting for accounting "majors" and for non-accounting "majors." The introductory course in accounting should explain the logic which underlies accounting conventions. It should clearly define the role of accounting as an interpreter of the business process. It should deal with concepts and theory. The entire theme of the introductory course should be, "Why?" "Why is 'Cash' usually the first item on the Statement of Financial Condition?" "Why is 'Revenue minus Expense' usually a better measurement of income than is 'Receipts minus Disbursements?' " It is not enough that the student in his fifth week of introductory accounting should know that the entry for a sale on account is "Debit Accounts Receivable, credit Sales." He should understand clearly *why* the entry to recognize revenue is made before the collection of cash. It is not sufficient that he should be able to prepare a trial balance from a series of accounts; he should be able to explain the function of the trial balance and of the accounts themselves. It is not enough that the student know that assets are classified as "Current" and "Fixed"; he should know why this distinction is useful.

The product of the introductory course in accounting should not be judged by his ability to "do" accounting. He should *know* accounting.

The second course in Accounting is the proper place for emphasizing technique as well as the logic of accounting theory. *This* is the course in which the accounting "major" will blossom, or in which the interest in accounting which was kindled in the introductory course will be stifled. *This* is the course which should introduce the

student to the detail of accounting and which should challenge him with more difficult situations than he encountered in the introductory course. *This* is the course in which problems should be solved and subleties of theory examined microscopically. Although the sequence of this course should be the same as in most of the traditional accounting curricula, if the principle on which the five-year accounting program rests is valid, *it should not be the same course.*

In addition to the introductory course and the intermediate course (including specialized topics like consolidated statement preparation, partnerships, etc.), the undergraduate accounting offerings should include a survey of cost accounting, auditing, and income taxation. Each of these courses should probably be limited to one semester's duration.

The cost accounting course should be taught as a managerial control course, and it should include elements of job order, process, standard, and distribution cost analysis. This course should be the kind of course that would be elected by any business administration student interested in business management and in cost control. It should be oriented, not to the accounting student who expects to continue a fifth year of work, but to the non-accounting student for whom this accounting course may be a terminal one. This course should be taught in accordance with a philosophy similar to that underlying the approach to introductory accounting described above. As in the case of introductory accounting, practice sets and teaching methods which emphasize technique have no place in this cost accounting course.

The course in federal income taxation should be oriented around a basic philosophy of income taxation. The purpose of this course should *not* be to train the student to prepare the income tax returns of future clients but to instill in him an appreciation of the logic (or lack thereof) which supports some of the concepts of taxable income. The job of presenting a satisfactory income tax course is probably the most difficult of all those pertaining to the undergraduate course offerings in accounting. Like cost accounting, this course should be the kind of course that *any* business administration student should elect to enhance his own appreciation of the tax implications in business events.

The auditing course must not be oriented to the *practice* of *public* accounting. There are certain kinds of knowledge which are most efficiently taught in the academic environment, while others are best acquired in a practical atmosphere. The *practice* of auditing, public or internal, cannot be taught efficiently or well in the academic environs. There is no implication here that an auditing course has no place in the curriculum, but rather that its objectives should be realistic. Auditing courses should aim to further instill in the student an inquiring attitude and a deep appreciation of professional responsibility and ethics. In the fourth year time spent on practice sets and detailed working papers is misspent.

### *Inter-course relationships*

Before continuing with the fifth year program, some consideration should be given to an intriguing problem of business education. The entire business administration area is a complex of inter-related impulses. No course can be taught in a vacuum and there is a real need for relating the content of many courses to that of others. Some pioneering work has already been done in this area at the Harvard Graduate School of Business Administration, at Carnegie Tech, and at Northwestern University. The desirability of combining introductory courses at the undergrad-

uate level is questionable, but there is a *real* need for a fourth year course(s) which would relate the material contained in all the undergraduate offerings in business administration. Such a course would be invaluable in a five-year accounting program.

At the end of the fourth year, the student who has been exposed to the above curriculum has received a good education. He is not prepared to take the CPA examination, but he is eminently qualified to be employed by industry, by public accounting, or by government. He is capable of benefiting from practical experience and he will be able to progress to the limit of his innate potential. With supervision and continuing study, he will be able to cope with any problem that a junior accountant in public practice is apt to face and he will be able, in time, to complete the CPA examination successfully.

### *The Fifth Year*

*This* is the year of specialization. The avowed goal of this year of study should be to bring the accounting student to a high level of technical proficiency. The student must also be encouraged to develop a deeper understanding of accounting theory and concepts and he must be made keenly sensitive to the uses to which his accounting knowledge and ability may be put. As an incidental goal, the student should be actively encouraged to take the CPA examination in the latter part of his fifth year.

The course offerings of the fifth year should include the following areas.

*Cost accounting problems.* This is the time for introducing intricate and complex cost accounting problems of all types, but the applicative aspects of these problems must never be de-emphasized. Since cost accounting is inherently a control device, the watchword of this period of study should be "management control."

*Auditing.* The study of this area should be oriented around the *case*. SEC requirements, the case studies of the AICPA, and internal control problems should comprise the essence of this period of study. Aspects of both internal and external auditing should be included. The fundamental problems of both areas of auditing are similar, and it should not be difficult to include both in the same period of study. (It should be noted here that there is really no need in a five-year accounting program for an internship program of any kind. Students might be encouraged to seek employment during summer vacations in order that they might enrich their appreciation of academic courses, but the propriety of allowing university credit for such endeavors is questionable. In its essence, the awarding of college credit and of grades for work accomplished in a public accountant's office or in the office of an industrial concern places the university in the rather unique position of having surrendered to an outside organization the responsibility for maintaining academic standards. The whole picture of internship programs for college credit seems rather incongruous.)

*Theory and Problems.* This area should be viewed as an integrated whole. The student needs practice in solving complex problems of a general nature and he needs to strive towards a deeper understanding of accounting theory. These are not separate areas of study. Through the use of cases the student should be exposed to wide ranges of business characteristics and problems. The cases should be analytical, purposeful in the business setting, and they should include much of the traditional problem material. In this period of study the major works of past and contemporary accounting theorists should be examined. While the student should have been encouraged at each point in the curriculum to be critical of accounting conventions,

it is at this time that real challenges to contemporary accounting conventions might be discussed most satisfactorily.

*Accounting Systems*. Like auditing, "systems" is a difficult thing to teach in an academic environment. The objective here should be to develop an appreciation for the poetry of orderly procedures in the processing of meaningful data. This area must include basic work with integrated data processing methods and electronic data processing equipment. As a minimum level of achievement, every accounting student must appreciate the capabilities and general characteristics of electronic data processing equipment. It would be desirable for every student to learn to program a small problem for some type of computer. The keynote of this period of study should be creativity. It should be anticipated that short field trips would become an integral part of the work in the "systems" area. It is possible that much of the work of the course should be in the nature of case development by the students. Each accounting system studied should be treated as a proper subject for revision and improvement.

*Federal Income Taxes*. Additional work in this area would be desirable. The accounting student must be qualified to review tax returns of many kinds of clients and he must be prepared to do research, not only in the area of federal and state income taxes, but in many other areas of taxation. He must be brought to the level of proficiency which makes him sensitive to the problems of "tax-planning." If he is in a geographic area in which there are unique tax problems he should be afforded an opportunity to do independent research on them.

*Research*. The student should be afforded an opportunity to work independently in special areas of accounting knowledge that interest him. Such independent study should be conducted under the personal guidance of faculty members who are specialized in the student's area of special interest.

Highly specialized areas of accounting, such as governmental accounting, should be treated intensively at some time prior to the CPA examination. The student who is particularly interested in this area should be afforded time to work intensively in it.

*Business Law*. The specific knowledge of business law which is a requisite for successful completion of the CPA examination should be acquired in the fifth year. This kind of approach to Commercial Law does not constitute desirable knowledge for the non-accounting undergraduate, and the course should not be included in that curriculum. As a satisfactory and eminently more useful substitute, a course might be offered which would acquaint the student with the various areas in which business is subject to Federal and state regulation.

*Other Courses*. In addition to the areas mentioned above, the fifth year might include separate courses in financial and/or managerial policy or control, but this election would depend on the basic format of the accounting offering. It is possible that the content of these courses might have been included therein.

The most important problem inherent in the fifth year of the accounting program is that of eliminating duplication of material included in the various accounting areas. When periods of years, or even semesters, separate the auditing course from the cost accounting course, duplication and repetition of material may serve a useful purpose. In a five-year accounting program, however, the student will be "living" accounting for an entire year. In this year, it would be useful to abandon entirely the conventional "three-hour" course format in favor of some form of block approach in which all or most of the areas of accounting knowledge might be considered as a unit. For example, if one

area of study is that of Accounting Theory and Problems, why is a separate and distinct course in Cost Accounting Problems necessary? Much of the content of Auditing deals with theoretical concepts. Should the auditing course be separate from the course in theory and problems? In making his decisions, the business manager *must* be familiar with tax aspects and implications. Is there a valid reason for making the sharp distinctions that are usually made in the academic environment between the tax course and the theory course? Even if such a distinction is justified in the undergraduate years, there may be no reason for drawing the line of demarcation so rigidly in the fifth year of accounting study.

For some time the fifth year will be an experimental one. It should assume an atmosphere of intensive dedication and purposeful study. Let's make this possible by doing more than a face-lifting job in which the old format and methods and content are merely given a new coat of paint. Our approach to the five-year accounting program should be creative and imaginative.

Which degree to give? I think the best interests of the accounting profession will be served if a separate and distinctive degree is awarded at the end of the fifth year. This degree should probably represent a second earned degree, since in many cases the student will have already fulfilled the requirements of the four year business administration curriculum. If the fifth year is as intensively implemented as it should be, a case for awarding a Master's degree can be made.

# BASIC RESEARCH IN ACCOUNTING

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### STATING THE PROBLEM

The future of accountancy as a profession depends to a great extent upon the foundations which are laid today. When respected accountants in critical self-examination state with validity that the basic assumptions on which accountancy rests would be indefensible if they were not indispensible, one can but gaze with a certain amount of skepticism at the vast superstructure which has risen upon such premises. Perhaps what accountancy needs is an "agonizing reappraisal" of its basic tenets, and a "crash" program to resolve any lingering doubts.

It is the conviction of some members of the accounting profession that progress in accounting thought has reached a plateau. They maintain that in order to keep pace with the rapid developments being made in other areas of knowledge, the accounting profession must either press on towards the summit or sink back into the abyss. There is no such thing as marking time. In order to go forward, it is necessary that accountants, acting individually and in consort, attack with enthusiasm the problems which confront the profession. Many of these problems can be solved only through basic research. Creative research pertains to the essence of the art of accountancy.

While every man is born an inquisitor, his efforts can usually be made more productive if he adopts a system in his approach to a given problem. Once he acquires a working knowledge of the basic tools of research, his research projects may be undertaken with confidence that the effort expended will be justified.

### CHARACTERISTICS OF THE RESEARCHER

**The desire for knowledge is the driving force which motivates the researcher. Research requires a fierce dedication to the task at hand. The researcher must approach his assignment with complete honesty and impartiality in order that his findings may be accepted with confidence. He must never compromise with the truth. He must be willing to modify or abandon his opinions if the evidence so warrants. He must possess an inquiring and imaginative temperament coupled with a tireless spirit capable of pursuing his elusive quarry, truth, through the wilderness of confusion and contradictions until it is brought to bay. He must be absolutely fair in dealing with the findings not only of predecessors and contemporaries but also of opponents.**

**Theodore Roosevelt sketched a mental image of the man who is ideally suited to engage ignorance in mortal combat:**

> **It is not the critic who counts; not the man who points out how the strong man stumbled; or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena; whose face is marred by dust and sweat and blood; who strives valiantly; who errs and comes up short again and again; who knows the great enthusiasms, the great devotions and spends himself in a worthy cause; who at the best knows in the end the triumphs of high achievement; and who at the worst, if he fails, at least fails while daring greatly; so that his place shall never be with those cold and timid souls who know neither defeat nor victory.**

### AUTHORITY IN ACCOUNTANCY

**Before beginning our discussion of research methods, it is necessary to comment briefly on an alternate but less acceptable**

method of determining issues—authoritarianism.

An authoritarian system of thought requires complete and unquestioning belief in an established power. It is hardly conceivable that the accounting profession will ever reach a position where certain groups or individuals will be empowered with authority which will permit them to decide definitively and exclusively all matters of principle and procedure. While rejecting authoritarianism as a goal to be sought, one must acknowledge that there are groups and individuals whose opinion on accounting matters are to be highly regarded. When the collective judgment of the members of the profession expressing the substantial agreement of its members with respect to principle comes into conflict with the opinion of the individual, there is a strong but not an absolute presumption supporting the position of the group. However, the members of a profession should avoid letting others do all their thinking for them. As long as accountancy remains an art, there will always be place for a certain amount of individualism—individualism which should be encouraged rather than stifled.

### RESEARCH METHODS IN ACCOUNTING

When one speaks of "research methods" one ordinarily refers to orderly procedures of studious inquiry. This inquiry usually involves critical and exhaustive investigations.

The principal methods of reasoning employed in accountancy may be classified as (1) the inductive method, and (2) the deductive method. In support of these two basic methods of inquiry, one may refer to specific procedures, of which the following are adaptable to research in accounting: (1) the historical, (2) the analytical, (3) the experimental, and (4) the statistical methods.

It may be well at this juncture to distinguish between what may be called (1) pure (theoretical) research, and (2) applied (practical) research. Pure research is primarily concerned with the development of complete, valid, and coherent definitions, explanations and descriptions. It is essentially philosophical, and, as such, inquires into the nature of the subject being studied. Pure research in accountancy would attempt, for instance, to determine the content of concepts such as cost, income, revenue, etc. Applied research is concerned with obtaining solutions to practical problems. It usually places major emphasis upon factual data.

### APPROACHING A PROBLEM

Much time and effort can be saved if the researcher develops for himself a general pattern of "problem solving" into which specific cases can be fitted. The following steps indicate one method of coming to grips with an elusive problem:

(1) Identify the problem. This may involve the defining of terms and the clarification of issues.
(2) Select a method(s) of approach best suited to the problem identified. (The various methods available are discussed later in this article.)
(3) Accumulate the data required for a correct solution.
(4) Evaluate the data accumulated. This may require verification procedures, the posing of alternate solutions, or an appraisal of work performed.
(5) Decide upon the answer that is to be accepted.

### METHODS OF REASONING EMPLOYED IN RESEARCH PROCEDURES

. *The Inductive Method.*—The inductive method of reasoning involves the study of an adequate number of individual cases and the drawing from this study of a general conclusion. Induction makes infer-

ences about a whole class from observations of a few of its members. Induction is valid when its conclusions are drawn from complete as well as from incomplete but representative data which have been thoroughly and exhaustively investigated. The case study approach frequently used in accountancy is essentially inductive in form.

Several simplified illustrations of the inductive method of reasoning may help to clarify the matter. The accountant may reason inductively that: Heat, light, and power costs vary in proportion to production (this fact was determined as a result of observations). Costs which vary in proportion to production are variable costs. Therefore, heat, light and power costs are variable costs. Another example of inductive reasoning would be the following: Our competitors, A, B, and C, have adopted a cost-plus method of pricing their products (this fact was determined as a result of observations). Our products are to be priced according to the methods used by our competitors, A, B, and C. Therefore, we will price our products according to the cost-plus method.

Fallacies which frequently are associated with this method of reasoning include (1) the drawing of general conclusions from insufficient observations, and (2) the failure to include in the observations all the factors vitally associated with the general conclusion. These errors arise as a result of an unwarranted jump from particular cases to a general conclusion.

*The Deductive Method.*—The deductive method of reasoning starts with a general statement, principle, or hypothesis, and then tests the accuracy of the generalization by means of a series of observations. If agreement is found between the observations made and the original generalization, the generalization is confirmed. If not, it may have to be modified, rejected, or subjected to additional studies. The deductive method assumes that the person making the generalization possesses a knowledge of the forces or conditions affecting the data which are to be observed. This method of reasoning is especially useful in applying a known truth to specific instances. It utilizes knowledge already acquired in facilitating the acquisition of additional knowledge.

Several situations where the deductive method of reasoning may have application for accountancy may be mentioned. The allocation of costs is sometimes made by means of deduction. The accountant may reason as follows: Firms having the same hourly pay rate for all direct laborers can best use the labor cost basis for distributing overhead costs (a generalization). Our firm has the same hourly pay rate for all direct laborers. Therefore, our firm can best use the labor cost basis for distributing overhead costs. Again, an accountant would be reasoning deductively if he stated that optimum output for the firm is at 90% of capacity, and then conducted a study to confirm or to reject this hypothesis. An interpretation of labor and material variances might also utilize this method of reasoning.

Many errors are possible in deducing the outcome of individual cases from an original generalization. If the generalization is false, or if a true generalization is applied to an individual situation which does not come under the terms of the generalization, the drawing of an erroneous conclusion is almost inevitable.

### THE SEARCH FOR CAUSES

Research other than that which is purely descriptive is usually concerned with the establishment of a cause-effect relationship. Several general methods which are helpful in determining causes are outlined here:

(1) *Method of Agreement.*—If the circumstances leading up to a given

event have in all cases had one common factor, that factor may be the cause.

(2) *Method of Difference.*—If two sets of circumstances which differ in only one factor and the one set of circumstances containing this factor leads to the event and the other does not, this factor may be the cause of the event.

(3) *Method of Concomitant Variation.*—If variations in the intensity of a factor result in a parallel variation in the effect, then this factor may be the cause.

(4) *Method of Residue.*—If part of a complex effect can be accounted for by referring to certain preceding circumstances which are known to be, or to have been present, and the results of which are already known from previous investigations, then the residue of the complex effect may be causally associated with the rest of the preceding circumstances.

### RESEARCH METHODS

There are four methods of research which are particularly suited to research in accountancy. They are the historical, the analytical, the experimental, and the statistical methods. Some of these methods are especially useful in handling certain types of problems. At times a combination of methods is required in order to arrive at a satisfactory conclusion. All of these methods utilize in one way or another the inductive or deductive methods of reasoning.

### THE HISTORICAL METHOD

The historical method of research relies upon the discovery and utilization of past events in arriving at descriptions, explanations, and solutions to current problems. It involves an analysis and interpretation of historical facts in a search for a cause-effect relationship. Its evaluation of present and future events is based upon accumulated historical data. Valid conclusions can often be traced to facts revealed by historical search.

The accountant relies upon historical data when he attempts to forecast future events. A study of the growth characteristics of a single enterprise, of an industry, or of the economy as a whole, must rely upon historical findings. Accounting records, statements, and other financial documents are essentially historical in nature, and they provide the basic source material from which much financial knowledge may be gleaned. The presentation of comparative statements in annual reports is a concrete illustration of the use of the historical method.

Certain practical difficulties are sometimes encountered by the individual who attempts to apply this method of research to a specific problem. The difficulties associated with the use of this procedure include (1) the incompleteness of historical records, (2) the inadequacy of the search, (3) a too complete study which may result in losing control over the material, (4) changed conditions which make the data accumulated of little relevancy in appraising the current situation, (5) the attributing of an unjustified causal relationship in the circumstances leading up to the event, and (6) the failure to realize that history does not always repeat itself.

### THE ANALYTICAL METHOD

The analytical method is a research procedure which utilizes raw and at times complex data through a process of separating the material into groups and divisions which permit interpretation. This method relies upon the separate examination of the component parts in order to arrive at an understanding of significant relationships.

The accounting uses of this method of analysis are almost unlimited. The accounting cycle is primarily an analytical

procedure. The journal entry itself is the result of an analysis of the transaction recorded. Working paper technique represents the utilization of the analytical method in a most practical form. The horizontal and vertical analysis of financial statements employs this method. The multitude of ratios used in pointing out the significance and meaning of the data presented in financial statements are analytical in nature. Statements accounting for variation in net income and gross profit as well as statements of application of funds can be prepared only with the assistance of the analytical method.

The greatest danger associated with the analytical method of research is that the user may lose sight of the whole by concentrating too closely on the parts. It is also conceivable that the original division of the whole into its constituent parts may have been made in such a manner as to give a distorted view.

### THE EXPERIMENTAL METHOD

The experimental method of research requires the working out on a small scale of a trial solution to the problem. Experimentation involves a series of attempts to establish, to confirm, or to disprove a hypothesis. It is also useful in demonstrating some known truth. Experimentation relies upon the making of a series of systematically arranged observations under controlled conditions subject to repetition and verification.

The accounting applications of the experimental method of research are many. This method is especially useful in situations which permit "model building." System construction can often be carefully developed through the use of this method. The programming of accounting data through electronic equipment can be accomplished in many instances by experimentation. The determination of the most suitable method of taking a physical inventory may be subjected to experimentation. Break-even analysis, profit planning, budgetary procedure, setting of standards for labor and material, systems of internal control, these and many more accounting techniques indicate the type of problems which can utilize the experimental method of research.

One of the difficulties encountered in using the experimental method is that it often ignores the human element in the problem. In complicated situations, the experimental method may not give proper weight to factors as they exist under actual conditions. The transference of a plan from the drawing board to a practical situation may create unexpected complications with other aspects of operation which were not foreseen in the experiment.

### THE STATISTICAL METHOD

The statistical method is usually defined as the collection, presentation, analysis, and interpretation of numerical data. This method is often the only objective means available for dealing effectively with quantitatively large masses of numerical data. The specialized techniques of this procedure include sampling, classification, graphic presentation, averages, measures of dispersion, index numbers, trends, seasonal indices, correlation coefficients, etc.

The statistical method has many important accounting applications. It is capable of handling studies dealing with the determination of the effects of price level changes. Statistical tools are also employed in auditing with respect to the confirmation of receivables, the sampling of inventories, and the like. The industrial accountant is undoubtedly familiar with averaging techniques used in inventory pricing, with statistical estimations of sales trends, and with the graphic presentation of financial information.

Certain fallacies which should be avoided by those using the statistical method include (1) bias on the part of the inves-

tigator, (2) omission of important factors in the calculations, (3) insufficient and/or unrepresentative data, and (4) attributing a causal relationship to what are merely preceding or accompanying circumstances.

### REPORTING

A research project should not be considered complete until the final results are reported, and, in many cases, published. Most accounting research projects undoubtedly are undertaken to provide information required for the internal management of the enterprise. However, there is much research of an accounting nature which is not confidential and which should be made available to the profession. The dissemination of such information can be made through monographs, articles in the professional journals, books, and by other means. It is only through basic research and subsequent publication that accountancy will be able to maintain a strong position of professional competence.

### CONCLUSION

Research methods are simply means to an end. One should never become so enmeshed in the details of method as to lose control over the ultimate purpose of the undertaking. It is important that an accountant who is constantly engaged in research should be familiar with procedural techniques. The selection and application of the correct method of approach to any problem depends ultimately upon the intelligence, imagination, and ingenuity of the researcher.

# IS THE TRUST FUND THEORY OF CAPITAL STOCK DEAD?

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Chief Justice Story, in giving his famous "trust fund theory" in 1825 in the case of "Wood v. Dummer," stated that the capital stock of a corporation constitutes a trust fund for the payment of its debts to creditors. This theory has had important implications for accounting. The accounting treatments accorded the payment of dividends and the purchase by the corporation of its own outstanding stock are representative ones. Others are the accounting for premiums and discounts on the issuance of stock and the presentation of all types of surplus[1] on the balance sheet.

A thorough check by this writer of ten leading introductory and intermediate accounting textbooks of recent publication reveals that not one of these texts refers to the "trust fund theory of capital stock" by name. This is substantially different from the situation fifteen or twenty years ago, as a good portion of the accounting texts at that time gave some expression to the trust fund theory. The implication of this comparison may be that the theory is dead or it may be that authors of current accounting texts simply prefer to leave the explanation of the theory to textbooks of related areas which the college student should be studying at the same time.

The purpose of the trust fund theory of capital stock was to cause the assets originally paid in by the stockholders to remain in the corporation as a buffer for the protection of the creditors' interests. Actually, capital stock itself cannot be a trust or a fund held in trust. Neither can the assets *represented by* the capital stock account constitute a trust. The corporation is not a formal trustee of the contributions made by shareholders, and the creditors are not beneficiaries. It was never intended that the assets contributed by the stockholders should remain in the corporation in their original physical character.

Since the assets received for shares issued were expected to change form, the capital stock account was used to convey the *amount* of the "fund" which should be maintained in the corporation at all times as a protection for the interests of the creditors. The capital stock account came to be referred to as the "legal" capital, or stated capital, of the corporation. In the case of par value stock, the par value of the issued stock was considered the legal capital. Any creditor, or prospective creditor, could easily determine the amount of legal capital maintained for his protection by reference to the capital stock account on the balance sheet.

Assets which were represented in the stockholders' equity section of the balance sheet by earned surplus and paid-in surplus were available for distribution to stockholders under the trust fund theory. Such "surplus" amounts were not required for the maintenance of the "trust fund."

### *Influences Weakening the Theory*

Certain practices and developments tended to weaken the trust fund theory, at least from the standpoint of the use of the *name* of the theory. The *principle* of the

[1] It is believed that the ideas can be expressed better, and surely more quickly, in this paper by using the term "surplus" wherever applicable than by using the terms recommended in current accounting literature.

theory may or may not have been weakened by these developments. These practices and developments are: (1) the necessity of departing from a literal interpretation of the theory; (2) the growth of no-par stock; (3) an increase in treasury stock transactions; (4) the existence of many "wasting asset" corporations and (5) the practice in some states of permitting corporations to reduce their capital stock accounts.

The necessity of departing from a literal interpretation of the theory was confusing to many persons. This caused a lessening of the use of the name of the theory in writings.

The popularity of issuance of no-par stock caused real difficulty in the application of the trust fund theory. The question became: What is the amount of the trust fund, the legal capital? The amount for which the no-par stock was sold was generally interpreted to represent the legal capital. When the charter or the board of directors set a "stated value" on the no-par stock, such stated value was assumed to be the legal capital, or the amount of the trust fund. Ridiculously low stated value amounts, however, might be interpreted erroneously as the legal capital. At least, court decisions on this point were slow in appearing and the resulting uncertainty left the trust fund theory somewhat weakened.

The increased purchasing and selling of a corporation's own stock also caused difficulties in the application of the trust fund theory. Did the purchase of some of its own outstanding stock by a corporation reduce the amount of the trust fund—the legal capital of the corporation? Although the assets of the corporation were paid out by a transaction of this type, the mathematical amount of the fund, or legal capital, was not reduced. According to the theory, a careful restriction or reduction of surplus should be made by the amount paid for the treasury stock. When the treasury stock was sold again, the surplus restriction could be lifted if the sale brought in assets at least equal to the cost of the treasury stock. These considerations caused the accounting for treasury stock transactions to be more complicated.

The wasting asset corporation was generally interpreted to be an exception to the principle of the trust fund theory. The very purpose of such corporations denied that they were formed for continuity. It was reasoned that creditors of this type of organization should be familiar with the characteristics of the business and not expect the capital to be maintained. The mere existence of this type of corporation as an exception to the theory, however, undoubtedly had its effect in weakening the theory.

Some states permitted corporations to reduce their capital stock accounts and then distribute assets represented thereby to stockholders, thus reducing not only the amount of the fund but the idea that it was held in trust for the creditors. Usually it was required that a reduction in the capital stock account (legal capital) be accompanied by certain formalities, but creditors generally were not given a vote in this procedure.

### *Is the Theory Actually Dead?*

Although the trust fund theory may not be used much currently, at least by name, it seems that the principle of the theory is very much in evidence. State laws differ in regard to the payment of dividends, but generally it can be concluded that surplus must exist prior to dividend declaration. Although a few states do not permit cash dividends to be declared from paid-in surplus, it is believed that a majority of the states do permit dividends from this source. Such action is certainly within the principle of the trust fund theory.

Surplus arising from the sale of non-inventory assets is generally available for dividend declaration. Thus prevailing practice is in agreement with the trust fund theory in making profits from the sale of non-inventory assets available for dividend payments just the same as profits from the sale of inventory.

Perhaps one of the principal points in substantiation of the trust fund theory is the fact that many states require that there must exist a surplus in order for a corporation to pay out assets in the purchase of treasury stock. Furthermore, these states require that the cost of the treasury stock must not exceed the amount of the surplus. The states which fall into this category are perpetuating the principle of the trust fund theory whether or not the theory is mentioned by name.

It is interesting to note that the authors of current accounting textbooks are doing a creditable job of presenting the accounting for treasury stock in regard to the reduction or restriction of earned surplus when treasury stock is purchased. Of ten recently published introductory and intermediate accounting texts observed by this writer, eight present a method of accounting for treasury stock by recording it at cost and deducting it from the total stockholders' equity and also showing retained earnings restricted on the balance sheet. These eight authors are following the principle of the trust fund theory (actually recognized in the states which require the existence of surplus prior to the purchase of treasury stock) by (1) showing retained earnings restricted or earmarked, and (2) presenting the capital stock to show that legal capital is not reduced by the purchase of treasury stock. Another author suggests that treasury stock be deducted from the stockholders' equity, but with no restriction of retained earnings. The other (tenth) author presents only the method of deducting treasury stock from capital stock, although his text discusses and recommends that an appropriation of the proper portion of retained earnings be made when the state law requires it.

It is also interesting to note that three of the authors give *only* the method of placing treasury stock on the books at cost and deducting it on the balance sheet from total stockholders' equity. Six texts present, in addition, the method of deducting treasury stock from capital stock.

Remnants of the theory are significant and surely worth preserving. The theory compensates for the absence of unlimited liability on the part of the owners, and thereby gives protection to the creditors. Such protection is fundamental to the corporate type of organization. The idea that the corporation should have a definite stated, or legal, amount of capital is good. This amount, in turn, should be revealed to the reader of the statements in order that both types of equity holders may be properly informed.

It should be remembered that the wasting asset corporation is a special type of activity, and the trust fund theory is not expected to apply to it; hence the theory works no hardship on such companies.

Reduction of legal capital without consideration of the creditors, as permitted in a few states, is in violation of the theory and seems to ignore the distinction between shareholders and creditors which is one of the characteristics of the corporation. It is believed, however, that the principal features of the trust fund theory are still recognized, although perhaps not tied in directly with the theory. The careful attention to dividend payments, the handling of treasury stock transactions, and the separate treatments accorded premium and discount accounts arising from the issuance of capital stock all substantiate this conclusion.

# ABSTRACTS OF DISSERTATIONS IN ACCOUNTING

Collected by
JAMES S. SCHINDLER
*Chairman, Committee on Research Review*

ABSTRACTS of doctoral dissertations in accounting are published periodically in THE ACCOUNTING REVIEW for the information of its readers. The last prior publication of these abstracts appeared in the April, 1958 issue. Each abstract briefly summarizes the nature of the problem explored and usually presents findings or conclusions. It is suggested that interested persons write directly to the author for more specific information or further expression of ideas respecting the subject. A copy of the complete dissertation may often be procured for study through interlibrary loan.

## CONCEPTS OF DEPRECIATION AND THEIR IMPLICATION IN ACCOUNTING THEORY AND PRACTICE

Phayom Bhavilai
University of Illinois, 1957

The purpose of this thesis is to develop an appropriate accounting concept of fixed asset depreciation in compliance with the basic accounting postulates underlying present accounting practice. Investigation has been made into various conceptions of fixed asset depreciation which have been referred to or implied in the fields of accounting, economics, law, and engineering. Theoretical analysis and comparison of these conceptions are necessary for development of the depreciation concept which is considered most appropriate for accounting purposes.

This study involves, in the first place, a thorough analysis of the "cost" and "value" concepts of depreciation. Evaluation is extended to the "deferred maintenance" concept under which depreciation of fixed assets is measured by the difference between the present value of fixed property and its replacement cost new. The problem of maintaining capital, which is sometimes understood as one of the primary objectives of depreciation accounting, is also given thorough consideration. Possible accounting treatments for normal and extraordinary obsolescence are evaluated from the theoretical standpoint after considering justifications for the exclusion of "loss" elements from the amount designated as depreciation. The effect of general price level changes is considered insofar as it influences managerial judgment in selecting the depreciation base. In addition, a careful evaluation of the various methods of apportionment is included to facilitate the selection of an appropriate method of apportioning fixed asset cost in view of the concept thus developed. As a result of this study, the accounting concept of fixed asset depreciation may be summarized as follows:

1. Depreciation is a cost of operations measured in terms of acquisition cost.
2. Current value does not afford an appropriate basis for measuring depreciation.
3. Depreciation is not measured by comparing the present value of property with its replacement cost new as featured by the "deferred maintenance" concept.
4. It is not the primary function of depreciation to provide for the maintenance of capital either in terms of money invested, purchasing power of money invested, physical property, or the operating efficiency of property.
5. Deduction of depreciation as a cost of operations on the basis of historical cost automatically provides for capital maintenance in terms of the money invested in property

(assuming that revenues are sufficient to cover all costs, expenses, and losses, including depreciation).

6. Depreciation includes only the cost of those services that are utilized in operations.
7. Those ineffective efforts or losses resulting from the abandonment of usable services are excluded from the amount designated as depreciation.
8. Normal obsolescence is to be provided for as a regularly recurring loss separately from the depreciation allowance.
9. Extraordinary obsolescence is to be recognized as a loss chargeable against net operating income of the period in which it occurs.
10. It is not the function of depreciation to provide for the replacement of fixed assets.
11. Adherence to historical cost is always desirable, even under conditions of changing price levels.
12. Depreciation is not properly determined on the basis of "original cost" (as used in public utility regulation), reproduction cost, replacement cost, or fair market value, or fair value of the property.
13. Depreciation of fixed property does not fluctuate in proportion with the revenue earned by the enterprise and cannot be properly determined by revenue.
14. Price level movements do not justify a departure from historical cost as the basis for determining depreciation.
15. The cost of depreciable property is to be apportioned among various periods benefited on a basis of use as well as on the basis of time.

## COST ACCOUNTING AND BUDGETING PROBLEMS IN AIRCRAFT MANUFACTURING

Richard O. Bennett, Jr.
University of Texas, 1957

This study was made to evaluate (1) assembly costing in the aircraft industry; (2) the methods of budgeting and budgetary control; and (3) the system of managerial reports, through first-hand observation and experience.

The aircraft industry has accounted for costs incurred on a contract by lot only and on a "non-pyramided" basis. The resulting time lag gave inadequate cost information and control. The company in this case study has attempted to solve this problem by costing parts by job-lot-run average and identifying these costs to an item number (integral part of the airplane). IBM tabulating equipment makes possible the determination of assembly costs.

A new division manager installed a system of budgets and cost controls shortly after the outbreak of the Korean War. The system of budgets depends on two key instruments: (1) the project budget and (2) the overhead budget. The project budget is prepared from the bid estimate upon which the contract is negotiated and is a detailed account of the expected cost to manufacture a certain number of airplanes. The overhead budget is prepared some months prior to the beginning of the fiscal year and is a detailed estimate of indirect costs for the year ahead.

The Budget Department is a service organization set up to supply all concerned the data necessary for adequate cost control. The line personnel are entirely responsible for controlling costs. To do this they must have accurate and timely control reports, which are issued on a continuing basis—weekly, monthly, and cumulatively. There are three classes of such reports: (1) on labor performance; (2) on personnel; and (3) on costs. These reports are prepared by responsibility and are summarized to the division level before presentation to top management.

In the aircraft industry, where conditions change drastically and frequently, long-range forecasting is very difficult. But this company through constant attention and frequent revisions to its long-range plans has been able to meet with a fair degree of success in forecasting cash requirements, sales, and profits for several years in advance.

This company produces military airplanes for the Air Force. Manufacture proceeds by way of the production assembly line, while costing, budgeting, reporting, and forecasting proceed by way of a parallel paper-work assembly line.

## MONETARY POLICY AND SALES FINANCE AND SMALL LOAN COMPANIES' FUNDS, 1949–1954

Ray Edward Dawson
Northwestern University, 1957

One point of disagreement between advocates and non-advocates of general credit controls restricting the volume of consumer instalment credit is whether tightening credit structure affects the operations of consumer instalment credit institutions. This study attempts to determine how a restrictive monetary policy affected the amounts, source, and cost of funds of sales finance and small loan companies. It is limited to the period between December 31, 1948 and June 30, 1954, which includes a period before and after the restrictive monetary situation from March 1951 to June 1953.

Questionnaires were sent to one hundred companies (fifty-one replied) to determine quantitatively and qualitatively what effect monetary policy had on their funds. This study is a compilation and analysis of their answers. Quantitative portions of the study deal with the amount, source, and cost of funds. Qualitative portions represent the expression of opinions by financial officers about their companies' actual and anticipated experiences in the money market during the 1951–1953 period and how these altered their financial operations. Companies were segregated into sales finance and small loan groups, then further broken down into size groups. As analysis of each division was made, qualitative and quantitative data were integrated to determine if variations were reactions to changing monetary policy.

Major findings were that the amount, source, and cost of funds to these companies were influenced to some degree by monetary policy. Of the three phases, amount of funds was least affected, source of funds more, and cost of funds most significantly. There was no discernible limitation in the total amount of funds used by these companies as an entity, but some companies were unable to get all the funds they wanted at rates they were willing to pay. This limitation was more than offset by the fact that larger companies could obtain additional funds at all times. The only possible limitation was of an indirect nature, caused by changes in terms of credit to the consumer which were made under the influence of monetary policy.

Monetary policy caused significant changes in the source of funds of medium and large sized companies. There was a relative shift from short-term to long-term debt, the larger the firms the greater the shift. Except for the three largest sales finance companies this was largely the result of factors influenced by monetary policy, namely, instability of interest cost and uncertainty about future availability of short-term funds. These caused interest rate differentials between short-term and long-term funds to disappear in the eyes of these companies. The degree to which companies shifted sources depended on the alternate sources available.

Cost of short-term funds increased about one per cent and long-term funds about three-quarters of one per cent from December 31, 1950 to June 30, 1953. In about half the sales finance companies increased costs were transferred, at least partially, to the consumer. Other companies either absorbed or found another way of offsetting it. In a few cases increased cost made it unprofitable to borrow additional funds from higher cost sources but if subordi-

nated funds were combined with other sources it still resulted in a profitable borrowing package. Interest rates for marginal companies approached the rate of earnings on assets.

The usual supply and demand relationships in the money market seemed to make funds unavailable to some companies during this stringent period. They also seemed to make borrowed funds unprofitable for some companies unable to pass on the increased cost to the consumer. The main result of this particular period of restrictive policy seemed to be in the area of adjustments companies made to unequal effects this policy had on different segments of the money market.

## AN EVALUATION OF THE ACCOUNTING PROVISIONS CONTAINED IN THE OHIO GENERAL CORPORATION LAW

Joseph E. Hampton
The Ohio State University, 1957

In addition to providing the authority for individuals to use the corporate device for the conduct of business, corporation statutes contain regulatory requirements designed to protect the rights and interests of investors. Regulation is necessary because the corporation is legally an entity apart from the creditors and owners who provide the capital with which it operates. Requirements relating to accountability and disclosure are a means of safeguarding rights of investors.

The evaluation of the propriety of any legal requirement must be in terms of the public interest. Since the corporate form of organization is predicated upon an assumption of continuity, a permanent division between invested capital and earnings is necessary. It is in the public interest that the statutes recognize this distinction in the requirements relating to legal (stated) capital, surplus, dividends, and share acquisitions. In addition, these requirements must insure an accurate accountability and disclosure of those transactions which affect the corporate equities.

The present Ohio General Corporation Law is not entirely satisfactory since it is contrary to the public interest in the following instances: (1) It permits the allocation of owner contributions of capital to a capital surplus account which may then be used as a basis for dividend distributions. (2) It permits an improper use of capital surplus in the elimination of a deficit in earned surplus. (3) It permits the payment of dividends while there is a deficit in earned surplus. (4) It does not provide adequate limitations upon the reduction of stated capital through the acquisition of treasury shares. (5) It does not provide adequate restrictions upon the carry-over of surplus in mergers and consolidations. (6) It does not require an adequate disclosure of essential information in annual reports. (7) The meaning of terms used in the Code is not always clear. (8) The intent of the Code is not always readily apparent.

The following proposals are set forth as the most desirable requirements to be embodied in the corporate code. (1) Stated capital should represent the amount of assets contributed by owners for shares and by others making gifts or donations of property. The stated capital of each share outstanding of a particular class should be the average amount paid in for shares of that class. Corporate stated capital should be increased upon issue of shares and transfers from surplus, and it should be reduced upon the reacquisition of shares and in instances where formal approval is obtained from owners. (2) Surplus should represent the amount of assets derived from earnings and retained in the enterprise. The elimination of a deficit in earned surplus should be accomplished only upon

approval of owners to reduce stated capital by an amount equal to the deficit. (3) A dividend should represent a distribution of assets in an amount no greater than earned surplus. Transfers from surplus for share dividends should be equal to the stated capital of the shares issued unless regulatory agencies require a different amount. (4) Share reacquisitions should represent capital adjustments. Stated capital should be reduced by the stated capital of the reacquired shares. (5) In mergers and consolidations the pooling of interest concept should be recognized. When fair values are assigned to the assets, a carryover of surplus should be prohibited. (6) The financial position and operating results should be disclosed through a balance sheet and an income and surplus statement. Disclosure should be made of the amount of stated capital, share distinctions, and surplus restrictions.

## EFFECTS OF ACCELERATED DEPRECIATION ON BUSINESS DECISIONS

Dale Severy Harwood, Jr.
University of Washington, 1957

In the years immediately following World War II, considerable pressure was brought to bear for a change in an antiquated tax depreciation policy. A degree of liberalization was finally provided by the Internal Revenue Code of 1954. This allowed for the first time the general tax use of the declining-balance, sum-of-the-years'-digits, and similar methods in the determination of taxable income. Briefly, such "accelerated depreciation" permitted the tax-free recovery of two-thirds an asset's cost in one-half its life.

Those who framed the 1954 code characterized it as a comprehensive revision undertaken "to remove inequities, end taxpayer harassment, and lower tax barriers to economic growth." Within this framework, accelerated depreciation was designed "to assist modernization and to promote industrial expansion which in turn would foster increased production and a higher standard of living."

While the skeptic might view this as a rationalization of a tax favor to the business sector, it was clear that many considered the new depreciation methods a promising means of stimulating investment. This proposition was examined at some length in the dissertation. In brief, it was concluded that while the stimulus of prospective tax savings does exist, it is so small as to be dwarfed into insignificance by other parameters typical of business investment planning.

Next considered was the tax-wisdom of switching to the more rapid methods in the light of the frequently expressed opinions that they provide but a potentially painful deferral of taxes, not a reduction. It was concluded that this is a misconception naturally arising when one focuses his attention on a single asset rather than upon a firm's total depreciable base. As one of the ways of examining this issue, the retrospective effects of straight-line and accelerated depreciation were calculated year by year for the period 1929–1948. Here the conclusion was that the average firm can look upon accelerated depreciation as offering a permanent reduction of taxes even if future business conditions are no more favorable to investment than those of 1929–1948.

Also examined was the available evidence of the extent to which the new methods have been adopted for tax purposes. Briefly, it appeared that approximately 50 per cent of the business taxpayers had switched to an accelerated method as of June, 1955. Very few of these firms chose to record an associated deferral of taxes.

It also appeared that approximately half of these taxpayers, or roughly 26 per cent of all businesses, had likewise adopted accelerated depreciation for general ac-

counting purposes. This adoption, predictably, has been sanctioned by the A.I.C.P.A.

In these firms, accelerated depreciation will have an effect on a multitude of decisions influenced by book values, working capital, costs, profits, and the balance sheet in general. It appears, however, that the accounting use of the new methods will conform to tax restrictions on "eligibility," limiting application to new assets acquired subsequent to 1953. The significance of booking the larger amounts will thus increase gradually, perhaps imperceptibly, with the growth in the eligible base.

Accountants concerned with the profession's tendency to follow rather than lead in the development of depreciation practices may find the general use of the new methods a bit disturbing. Those concerned with the combined effects of Lifo and accelerated depreciation on balance sheet values may press for a re-examination of the purpose of the balance sheet.

## THE GUARANTEED ANNUAL WAGE AND ACCOUNTING FOR DECISION MAKING

Robert K. Jaedicke
University of Minnesota, 1957

In recent years, much attention in the United States has been centered on plans to cope with unstable incomes through the device of "guaranteed wages." This phrase has been applied to so many different types of specific plans that it is difficult to establish a simple definition. On the one hand, the state governments have instituted plans of unemployment compensation which might be referred to as a type of guaranteed wage. On the other hand, the guarantee of eight hours of pay if the employee is called in for a shift, regardless of the actual number of hours worked under eight hours, has also been referred to as a guaranteed wage.

This thesis is limited to a discussion of the guaranteed *annual* wage and approximations to it included among the supplemental unemployment benefit plans. This version emphasizes a specific time period and thus excludes shift guarantees or "minimum run" guarantees which might exist in railroad operations. Furthermore, the types of annual plans discussed are those which have been established by various businesses. The discussion includes the conventional type plans (such as exist in the Procter & Gamble Company) as well as the new supplemental unemployment benefit plans (such as those established in the automobile industry). Given this limitation, the guarantee of wages by the government through unemployment benefits is excluded from the discussion as are other peripheral types of plans.

The term "guaranteed annual wage," as it is used here, involves two main ideas. First, it is a method of payment; the emphasis generally laid on the hourly rate is shifted to the annual rate of pay. Secondly, it implies the idea of a minimum wage which is guaranteed to the employee by the firm. This idea of a minimum guarantee introduces a ridigity or fixity into the labor cost. Even though the guarantee is not always absolute, it still requires the firm to plan future operations more carefully than when labor can be employed in very small time units.

With this change in the nature of the labor cost—that is, the terms under which labor can be employed—management must make certain changes in the decision-making process. The accountant can make an important contribution in helping to facilitate this change through proper reporting of the costs involved with the guaranteed annual wage. However, in order to be able to report properly the resulting costs, it is necessary that the accounting and economic implications of the various guaranteed annual wage plans he thoroughly investigated and properly understood. Such an investigation is the purpose of this thesis.

The organization of the thesis can be divided into three main parts. The first part includes a detailed discussion of the various guaranteed annual wage plans which are examined throughout the thesis. This part of the thesis also includes a general analysis of the costs resulting from the various plans.

The second part of the thesis is devoted to a discussion of the implications of the various plans on financial reporting, inventory costing, and income determination. The emphasis here is on the role of the cost accountant in furnishing reports and information regarding inventory costs which are to be used in determining periodic income. Also included here is a discussion of any balance sheet or other reporting problems created by the various guaranteed annual wage plans.

The third and most important part of the thesis is concerned with the implications of the guaranteed annual wage plans on the decision-making process. The question here is: how should the guaranteed annual wage costs be accounted for if the resulting information is to be used in problems of alternative choice rather than in reporting income? The problems of alternative choice which are considered are grouped into three main categories. The categories are: (1) capital budgeting decisions, (2) output decisions, and (3) price policy decisions. The first category includes a discussion of equipment replacement and expansion decisions; the second, a discussion of factor and product combinations as well as the problem of choosing the best level of output; and the third, a discussion of the price policy problems which are created by the change in the nature of the labor cost caused by the various guaranteed annual wage plans.

The various types of guaranteed annual wage plans affect the labor cost differently. The non-funded type plan, such as exists in the Procter & Gamble Company, tends to make labor a fixed cost over most of the labor year. This is due to the type of guarantee whereby the employee is guaranteed up to 1,920 hours of work or pay for the labor year. Under such a guarantee, the firm is incapable of employing labor in very small time units, which may have been possible in the absence of such a guarantee.

Since the non-funded type guarantee tends to fix the amount of labor cost for at least a year, it is necessary for managers to consider labor as a fixed cost for decisions made during the year or contract period. In the case of replacement decisions, it was found that this type of plan tends to cause the firm to postpone equipment replacement until a cost-free adjustment in the labor force can be made. On the other hand, this type of guarantee plan does not generally affect output or price policy decisions unless the planning period and guarantee contract period do not coincide, or unless changes have been made during the planning or contract period.

The change in the nature of the labor cost which results from a supplemental unemployment benefit or funded type plan is somewhat different. In these plans, the firm discharges its guarantee liability by making contributions to a fund. In these cases, labor is not necessarily a fixed cost but the plan does create an additional cost of employing workers. Furthermore, this cost may be incurred several periods after the services have been rendered by the employees or several periods after the decision has been made with respect to labor. Consequently, the amount of the labor cost as well as the timing of the incurrence of the cost has been changed by the funded type guaranteed annual wage plan.

The funded type plan, as compared with the non-funded type or conventional plan, creates quite a different set of problems for the decision maker. For replacement decisions, the increased fund contributions re-

sulting from changes in the size of the labor force must be viewed much the same as an increased capital investment. Thus, the funded type plan tends to discourage replacement permanently whereas the non-funded type plan tends to postpone replacement.

Also, in the case of output and price policy decisions, the funded type plan creates a different set of problems in comparison with the non-funded type plan. First, since the funded type plan increases the amount of the labor cost, the firm will generally make adjustments in the level of output as well as in factor combinations. Secondly, in the case of price policy decisions, the funded type plan generally causes cost to change from period to period; and this change creates the need for a constant review of the pricing decision.

Further generalization regarding the effects of the various guaranteed annual wage plans is dangerous. In the last analysis, it is necessary to classify the various plans into more than two general groups in order to analyze the individual differences. This is done in the thesis, although only a limited number of the more important plans are considered. If the effects of these few plans are properly understood and properly reported, much will have been done to facilitate the decision-making process.

## PUBLIC FINANCING FOR SMALL CORPORATIONS (Underwritten First Public Issues)

Vincent M. Jolivet
Harvard Graduate School of Business Administration, 1957

Although the difficulties encountered by small corporations in raising long term capital have long been recognized and many suggestions made to alleviate this problem (one of which culminated in the Small Business Investment Companies), almost nothing has been written on one of the major potential sources of such capital—public sale of securities. This thesis is a comprehensive treatment of public stock financing for small corporations. It is based principally on case studies obtained in the field by the author, and also on mail surveys, the study of appropriate prospectuses, and published materials.

The first part of the study considers the desirability and feasibility of public stock financing. Among the advantages found were the value of raising permanent funds without fixed charges or restrictions; the resulting improvements in credit rating and increase in borrowing power; the creation of a market useful in "unfreezing" the investment of old stockholders and helpful in settling estates; the ability to allow employees to participate in ownership; the facilitating of future sales of securities; the creation of a sounder basis for stock options; the use of a marketable security helpful in the acquisition of other companies; the value of the publicity received; and the management development which takes place as a result of the undertaking. Disadvantages included the high cost of flotation and cost of capital; the assumption of new responsibilities; the time and effort involved; and sometimes the uncertainty of obtaining the desired funds.

An almost complete lack of understanding of public financing and unjustified fears of loss of control were found among presidents of many corporations which were ripe for public financing but had never attempted it. Very often they were unaware that the possibility even existed. In an attempt to remedy this situation, the author has developed broad criteria by which the feasibility of public financing for individual companies can be appraised. For Regulation A issues ($300,000 or less), strong growth potential is much more important than established earnings, although sales should at least be approach-

ing a million dollars. Companies contemplating Regulation C issues (over $300,000) typically need established earnings of $100,000 or more, as well as some growth potential, although the latter need not be as strong as for Regulation A issues. Other criteria concerning assets, earnings, sales, net worth, and use of proceeds are also suggested.

The bulk of the thesis is devoted to an examination of the various steps of public financing, with recommendations concerning each one. Important differences exist between Regulation A and Regulation C issues, and the issuer should be aware of these. The first step, perhaps the most important one and certainly the most difficult, is the choice of an underwriter. Few investment bankers are interested in this type of financing, but "shopping around" is frowned upon by the banking fraternity. The author has developed a step-by-step procedure based on survey results which can be used to pre-select an underwriter before actually contacting him. Other steps of public financing considered and discussed include the determination of the size of the issue; the type of security to be sold; the price; underwriting terms and compensation; legal preparations and compliance with S.E.C. regulations and Blue Sky laws; the prospectus; timing; and long term preparations for public financing.

## AN ANALYSIS OF ACCOUNTING SKILLS AND KNOWLEDGES USED BY SELECTED EXPERIENCED ELECTRICAL ENGINEERS IN RHODE ISLAND

George W. Lees
University of Connecticut, 1957

In consideration of the complexity of modern industrial organization in which engineers are employed, this study was based upon the hypothesis that professional electrical engineers do use the skills and knowledges of accounting in their daily professional activities and their personal business affairs. The purpose of the study was to discover these accounting skill and knowledge areas in order to determine phases of accounting worthy of inclusion in a collegiate elementary accounting course for electrical engineers.

First, a preliminary survey was made of 70 accredited collegiate electrical engineering curricula, through an examination of college catalogs, to determine the extent to which accounting courses are presently included in such curricula. Then, an outline guide of 20 basic accounting topics for use in the interviews was developed through a perusal of several collegiate elementary accounting textbooks. Introductory letters seeking interview appointments were written to 54 electrical engineers in Rhode Island. Follow-up telephone calls secured interview appointments with 40 of these engineers. A "Thank-You" letter, enclosing an Initial Basic Information Questionnaire, was then mailed to each engineer who had granted an interview.

The electrical engineers interviewed were for the most part members of the American Institute of Electrical Engineers and represented four major fields of business enterprise: administration, merchandising, production, and development. The items discussed and recorded at each informal interview were: The engineers' answers to the Initial Basic Information Questionnaire; the extent of the engineer's professional use of the 20 basic accounting topics; and the degree of the engineer's personal use of accounting knowledge.

The preliminary curriculum survey revealed that courses in accounting are not, at present, generally included in the 70 accredited undergraduate electrical engineering curricula examined.

An analysis of the interviewees' use of

and need for accounting skills and knowledge was compiled from the interview responses. The most significant findings of the study, which verify the hypothesis, follow:

1. The 40 electrical engineers interviewed actively used skills and knowledges of accounting in their profession.
2. Accounting knowledge is of professional benefit to electrical engineers, particularly in writing financial reports, keeping subsidiary records, and consulting with accountants.
3. The electrical engineers interviewed generally felt that engineers who aspire to the executive level need a knowledge of accounting principles and practices.
4. The extent of the engineers' personal and socio-civic use of accounting knowledge increased their need for an understanding of accounting.
5. The majority of the engineers interviewed had not studied accounting at any time; yet they expressed a belief, based on their experience, that accounting should be included in the collegiate undergraduate electrical engineering curriculum.

On the basis of the findings of this study it is recommended that:

1. The faculties of undergraduate engineering schools consider the inclusion of, at least, a one-semester required three-credit survey course in the Elements of Accounting in the Electrical Engineering major.
2. Electrical engineering societies further investigate the need for accounting knowledge by electrical engineers in an effort to effect a nation-wide offering of accounting courses in electrical engineering curricula.
3. Graduate Schools of Engineering consider the inclusion of an elective survey course in the Elements of Accounting in their course offerings.
4. University Extension Divisions offer courses in accounting for experienced engineers and make certain that all engineers in their area become aware of these offerings.

As a final specific recommendation of this study, a detailed topical outline for a proposed one-semester collegiate survey course in the Elements of Accounting for Engineers is presented.

## COST ACCOUNTING AND BUDGETING FOR STATE MENTAL HOSPITALS

Hubert L. Menn, Jr.
University of Texas, 1957

This study develops principles and procedures of accounting and budgeting for state mental hospitals. Special emphasis is given to procedures for determining departmental and functional costs and to the relationship between budget administration and control and functional cost accounting.

The development of improved fiscal procedures is related to great advancement which is being made in mental health programs. Mental disease has been recognized as a very important problem, and the responsibility for caring for those afflicted will probably remain with the states. As mental health programs are expanded and increasing sums of money are expended, adequate fiscal procedures are becoming more and more important.

Several aspects of the systems in use in the several states are reviewed, and the desirable features are included in the procedures developed. It is shown that both cost accounting and the program or performance budget have been adopted to some extent by many of the states.

The procedures outlined are based on the common objectives of operating control, increased operating efficiency, and their use in preparing appropriation requests for the legislature and financial reports for public information. Greater uniformity among the states in regard to fiscal procedures is also desirable. The objectives listed make greater uniformity practical and reasonable as well as desirable.

Cost accounting and the program budget concept are aimed at common objectives, and each is somewhat dependent on the other in the accomplishment of these objectives. Cost accounting requires a sys-

tem of departmentalization on a program or functional basis. Program budgeting can be used to its greatest advantages only when related to reports on performance based on cost.

The fact that reports on expenditures will continue as legislative requirements is recognized. There is included, therefore, a procedure for reconciling the reports on operating cost with the statement of cash expenditures.

Since the determination of accurate costs for the several functional departments and sections is the basis for scientific budget preparation, the major portion of this study is devoted to the departmentalization of the hospital operation and the classification and distribution of expense. In regard to budgeting, the basic principles are explained and the general procedures are outlined.

Great emphasis is directed toward placing some responsibility for budget administration and budget control, together with responsibility for the operating program, on the lowest supervisory level. Delegation of responsibility for the cost as well as the program is the best way to obtain and maintain efficient operation.

Part of the information concerning the problems and practices of other states was obtained through use of a ten-page questionnaire. The response is indicated by the return of ninety-two per cent of the questionnaires. The questions, the tabulation of answers, and brief summaries are included in the appendix.

## AN ACTIVITY CONCEPT OF THE BUSINESS ENTERPRISE AND ITS IMPLICATIONS IN ACCOUNTING THEORY

Helmi Mahmoud Nammer
University of Illinois, 1957

Two schools of thought exist as to the nature of the accounting entity, each of which is intended to serve as an integrated framework for accounting theory and each of which has been subject to many criticisms. It is a hypothesis of this dissertation that both concepts are based on assumptions with respect to the structure and behavior of a business organization that are not in accord with the facts. The first objective of this study is to examine the validity of the above hypothesis; the second is to develop a realistic concept of the business enterprise.

Economic and legal aspects of internal structure, actual ownership, the nature of management, and the ultimate objective of a business organization lead to two major conclusions:

(1) The proprietary concept of the accounting entity is based on assumptions with respect to ownership, management, and the ultimate objective of the business enterprise that have been greatly influenced by the legal nature and classical economic ideas of the firm. Such assumptions are not valid in the light of economic facts of the corporate form and its activities.

(2) The entity concept is also based on assumptions with respect to ownership, management, and the ultimate objective of the business organization that cannot be justified on a legal or economic basis.

As a substitute for the traditional concepts, an activity concept of a business enterprise has been developed which is based on the idea that a business organization is "a complex system of formal and informal coordinated activities for the purpose of creation or transformation and distribution of utilities." The activity concept makes it possible to join together the view that the business enterprise is a productive economic entity and the view that it is a method of doing business for the participants.

The underlying assumptions of the activity concept with respect to the structure and behavior of a business organization are based on economic facts rather than legal

considerations. Under the activity concept, the entity is regarded as the asset holder and long-term investors are considered to be the true asset owners, ownership and management are two basic factors that are mutually influential, and survival and growth are the ultimate goals of the business enterprise.

The activity concept has far-reaching implications in accounting theory. Three fundamental areas in accounting are selected for discussion. These are the nature of assets, the nature of capital, and the nature of income. After evaluating the traditional concepts in these areas, the thesis arrives at the following major conclusions consistent with the essence of the activity concept:

(1) A definition of assets should emphasize service potential and beneficial interest as the basic attributes of assets.
(2) Capital is best considered to be the expression of the long-term investment equity in the assets.
(3) The balance sheet equation should be stated as follows: Assets—Short-term Liabilities = Net Worth + Long-term Liabilities.
(4) Income should be defined in terms of the enhancement in the enterprise assets.
(5) Two income figures should be reported in the income statement: operating income to measure the success of the enterprise as a productive economic entity, and owners' income to measure the success of the enterprise as a method of doing business for the owners.

The activity concept as developed in this dissertation is not unique to accounting, but it can be of great usefulness for accounting purposes. It has superiority over the traditional concepts in that it is based on a realistic analysis of the structure and behavior of the business enterprise, and insofar as it makes any personification of accounting definitions and concepts unnecessary.

## THE COMMERCIAL APPLICATIONS OF ELECTRONIC DATA PROCESSING EQUIPMENT

Richard Fisher Peirce
University of Illinois, 1957

The development of electronic data processing equipment has given to business the opportunity to eliminate an enormous amount of clerical work. The need for this is clearly shown by the increasing percentage and numbers of the working force employed in clerical operations. This thesis describes how a large percentage of this clerical work can be performed on data processing systems.

Five types of clerical operations are performed by most businesses. These include payroll, inventory control, purchasing, sales order handling, and general and cost accounting. The procedures required to convert these clerical operations are reviewed in detail. A program for the installation of a payroll system indicates the steps to be followed in making the analysis, programming, coding, and conversion for the new system. Flow charts indicate the sequence in which data are handled.

The same characteristics which enable data processing systems to perform clerical operations also permit them to prepare interpretive information for management. The contribution which data processing equipment will make in this area will be at least as important as the contribution in the clerical area. The use of this equipment to prepare budgets is described to illustrate the interpretive operations which can be performed on this type of equipment.

The ability to perform as many as several thousand operations each second permits a data processing system to do vast amounts of work. Reports can be prepared within an extremely short time after the source materials are available. Needed information which is not feasibly obtained

under manual methods because the time required to prepare the data is so great that the information is no longer usable can now be obtained.

High speed would be of little advantage if a sequence of operations could not be executed without manual intervention. In most clerical operations a routine decision must be made after the execution of a limited number of steps. An advantage of these systems is that no manual processing is required from the time source data are transcribed to magnetic tape until the final output is prepared. This is achieved because the equipment has the ability to make logical choices.

Without accuracy of operation none of the other advantages of the system could be secured. But with proper design and maintenance a system can achieve a degree of accuracy far better than humans.

Just as most of the advantages of the processing system can be summarized in one final factor—cost, so can the disadvantages. However, the elements that contribute to cost can be distinguished. Equipment costs are extremely high and the adoption of one of these systems usually requires radical changes in methods.

The primary factor now delaying the adoption of these new systems is the lack of detailed knowledge of methods for their use within individual companies. The American standard of living will be raised when greater knowledge of these systems permits their widespread adoption.

## THE IMPACT OF THE CHOICE OF BASE AND METHOD OF AMORTIZATION OF LONG-TERM COST ON FINANCIAL AND OTHER BUSINESS POLICIES

Isaac Newton Reynolds
University of North Carolina, 1957

The problem of amortization of long-term cost, principally depreciation, has been animated by the recent occurrence of two events: (1) the sharp decline in the purchasing power of the dollar, and (2) the enactment of the 1954 Revenue Act which permits restricted use of declining-amount depreciation for the determination of taxable income. These two events provided the stimulus for this study.

The two aspects of cost allocation studied are: (1) timing of the capital recoveries, a problem relating to depreciation methods—straight-line, activity, declining-amount, or other; and (2) total amount of the capital recoveries, a function of the base—original-dollar cost, original cost re-expressed in terms of current dollars, or replacement cost.

An evaluation is made of (1) factors influencing the choice of method and base, (2) usefulness of income and cost information as determined by alternative bases and methods, and (3) related tax problems. The objective is to ascertain the appropriateness of these methods and bases for the determination of business income and for the development of accounting information for management. As a general rule inferences and tentative conclusions are drawn from abstract models rather than from empiricisms.

Two major theoretical propositions are presented as postulates for the study of methods: (1) long-term cost should be allocated on a reasonable basis to the successive periods which benefit from the use of the asset; and (2) to accomplish this objective, an ideal method would allocate cost in such a way as to produce a uniform return on remaining net investment in all periods at a rate implicit in the transaction by which the asset was acquired. This method requires reasonable estimates of the amount of services in terms of volume and earnings that may be expected of the asset over the years, the amount and timing of the operating costs that may be incurred over the life of the asset, the impairment of service quality and adequacy

as evidenced by the decline in physical efficiency of the asset, and the amount of competition expected from improved substitutes. If these estimates can be made based upon past experience and engineering studies, then it is possible to project a pattern of net service values for major asset groups. Given this pattern and the implicit interest rate, it may be possible to select an appropriate formalized depreciation method; if not, it may be necessary to fabricate a simple method which fits approximately the projected pattern of net service values.

If the major pattern of net service values is the rapidly declining series, then the presumption in favor of a declining-amount method is strong.

In the majority of cases a method properly related to the net service values rendered by plant assets improves the accounting for cost and net income. This leads to more informed and intelligent decisions on many management policies—pricing, production, dividend distribution, financing, wage negotiation, and others. The more descriptive accounting information should result in sounder decisions by investors and, where regulation is involved, by regulatory agencies.

The substantial inflation which cut the purchasing power of the dollar by about one-half in the period 1904 to 1957 raises serious doubts about the adequacy of the original-cost depreciation base. If this base does not provide an adequate means of measuring the cost of capital consumed in the production of revenue, other more acceptable bases predicated upon a more accurate premise than the stable-dollar assumption must be sought.

Depreciation based on original cost reexpressed in terms of current dollars is an objective concept which fulfills the accounting requirement for correct determination of income and should be included in reports to management and others either as supplementary information or as adjustments of the regular statements. This does not imply that the historical cost statements are unnecessary or incorrect but rather that the accounting concepts on which they rest are not adequate to meet expanding needs for financial information.

Current replacement cost information and the resultant concept of net income, although less objective than adjusted historical cost, are essential for managerial decisions.

The Federal Government should make every effort to stabilize the value of the dollar. Should these efforts be ineffective legislation should provide for tax depreciation based on adjusted historical cost and for the development of official index numbers for this purpose.

One definite conclusion emerges from this study: the use of the original-dollar cost base and the straight-line depreciation method may cause management to make unsound business decisions; the direction and magnitude of the error depends in part upon the dollar amount, importance, average age, and rate of turnover of the plant assets.

## AN EXAMINATION OF CONTEMPORARY PRACTICES IN ACCOUNTING FOR INTANGIBLE ASSETS

Bevie Truett Sanders
The University of Texas, 1957

The primary purpose of this study was to establish a rational basis for reconciling the differences which exist at the present time between accounting theory and practice in regard to accounting for intangible assets. In order to provide a conceptual framework within which contemporary practices could be accepted or rejected, an appropriate body of principles and procedures which was in accord with the "income determination" approach was selected. In general, the principles selected represented the most recent promulgations

and rulings by dominant authorities in the accounting profession.

A preliminary investigation was conducted to determine the nature of accounting malpractices which accompanied many of the early-day corporate organizations and reorganizations and which resulted in the inclusion of fictitious amounts on the published financial statements. A related statistical study was also made to determine the extent to which these early malpractices affect present-day financial statements. Although the study revealed the presence of numerous malpractices involving the use of intangibles during the period from 1890 to 1925, it also revealed that virtually all intangibles created improperly had been eliminated from corporate balance sheets as the result of reorganizations or write-offs against capital surplus or retained income. Consequently, no valid reason exists today for the skepticism which prevails with respect to goodwill and other intangibles.

The major portion of the research consisted of an examination of contemporary practices of American corporations in accounting for all kinds of intangible assets. Annual reports, prospectuses, offering circulars, applications for listing with the New York Stock Exchange, and *Moody's Industrial Manuals* provided much of the information. The information provided by these published sources was supplemented by a mailed questionnaire directed to the controllers of eighty corporations which had recently acquired an existing business either by purchase of its assets or by acquisition of the capital stock of the company. The questionnaire dealt primarily with accounting problems arising as a result of a purchase price in excess of the book value of the assets acquired.

Although much of the accounting controversy involving intangibles revolves around the amortization problem, this study contends that most of the difficulty encountered in the past was due to the adoption of faulty accounting procedures at the time the intangibles were acquired. Where appropriate accounting procedures were used to record the acquisition of intangibles, the subsequent problem of providing a logical policy of amortization was minimized. Therefore, intangibles were categorized in this study according to the origin of accountability as follows: Intangibles acquired during the promotional stage, individually-purchased and developed intangibles, and intangibles upon the acquisition of the assets and business of a going concern.

Sufficient evidence was uncovered to indicate the presence of a trend toward the adoption of procedures for accounting for intangibles which are theoretically sound. The early practice of including intangibles in the accounts at arbitrary amounts has been abandoned entirely as an accounting concept. Equally important, in accounting for the acquisition of the assets of a going concern, many companies made an effort to identify the portion of the excess of the purchase price over the book value of the assets applicable to the tangible assets and the portion applicable to intangible assets. In many cases the portion of the excess applicable to the intangibles was charged to a specific intangible where such intangible was determined to be a dominant factor in the acquisition transaction. Consequently, goodwill was not regarded as an account for storing residual values but represented a bona fide value as determined by the capitalization of excess profits realized by the predecessor company.

## THE CONCEPT OF "OPERATIONS" IN ACCOUNTING AND ITS INFLUENCE IN INCOME DETERMINATION AND INCOME THEORY

Suthee Singhasaneh
University of Illinois, 1957

The purpose of this study is to develop the accounting concept of "operations" and to determine its usefulness and implications in the areas of income determination and income theory.

The primary step toward this objective involves an analysis of business transactions in order to reveal similarities, dissimilarities, and relationships among them. A significant group of transactions is found in profit-seeking transactions which deal with the utilization of funds contributed by various financial interests for the purpose of creating income. Various possible classifications of profit-seeking transactions are attempted which reveal many significant characteristics of these transactions. These provide a foundation from which the characteristics of "operations" are pointed out.

Interpretations of business enterprise operations by accountants, economists, and financial analysts are studied in order to determine current ideas in these related fields. Out of these ideas of operations, an integrated pattern of related ideas may be developed.

The characteristics of business enterprise operations revealed in this study are as follows:

1. Enterprise operations involve the income-producing activities. This would exclude all transactions dealing with financing, including distributions of income to various financial interests.

2. In its operations, the enterprise acquires assets and utilizes the services of these assets in creating products. The end result of the process of operations is the realization of revenue from the sale of these products to consumers.

3. Enterprise operations are planned by management which is held responsible for the efficiency of operations.

4. Enterprise operations are current to the period in which they are reported.

From the above characteristics of enterprise operations, the accounting concept of operations may be described as follows:

"Business enterprise operations include only income producing activities, planned by management for the creation and sale of products and services, and are reported in terms of revenue realized from these activities during the current period and related costs."

The usefulness of this concept is tested by applying it to problems in income theory. Practical applications of this concept are possible in two accounting areas—income determination and income reporting. Some interesting points revealed in this connection are that normal losses should be treated as operating expense, broadly conceived; the practice of income stabilization is not desirable because realistically operating results are subject to fluctuations due to varying business fortunes of one year as compared with another; and it is desirable to report operating items separately in the income statement so that significant information regarding operations may be clearly disclosed.

There is a close relationship between the concept of operations and the entity concept. Some of the ideas included under the concept of operations are developed by using the entity concept as a starting point. The concept of operations is recognized in all recent formulations of accounting theory. However, the implications of this concept do not represent a uniform pattern of related ideas. The relationship between income from operations and business income is that operating income represents a part of business income and it is distinguishable from other components of busi-

ness income because of its direct relationship to managerial efficiency.

The primary usefulness of the concept of operations is in the area of income reporting. In this connection, this concept provides a basis for grouping income statement items for better interpretation. Reporting a figure of operating income provides a measure of managerial efficiency in the utilization of funds to produce income.

## AN ANALYSIS OF CURRENT THEORY AND PRACTICE REGARDING THE ELEMENTS OF COST INCLUDED IN INVENTORY BY MANUFACTURERS

Robert J. Smith
Indiana University, 1957

One of the traditional ideas in accounting is that inventory cost for manufacturing concerns should include manufacturing costs, but exclude non-manufacturing costs. Since inventory valuation has a direct effect on the income reported for an accounting period and since many groups are interested in the income of corporations engaged in manufacturing operations, it seems desirable that there be some uniformity of practice, at least within each industry, as to the particular cost elements which become product costs and those which are treated as costs chargeable to the period. There appeared to be lack of agreement in literature and probably in practice with respect to the inclusion of many individual items of cost in inventory.

Although studies had previously been made in some areas of this general problem, the last major study was published in 1947 by the National Association of Cost Accountants. It seemed that there might be new developments in the areas previously covered as well as new data which could be gathered in other areas. In the approach to the subject two major hypotheses were set up to be tested: (1) whether traditional theory provides a sound and workable guide as to which items are includible in inventory of manufacturers, and (2) whether practice of companies complies with this traditional theory, and if not, the extent of variation and the reasons for the practices found. Profit determination, including inventory valuation, was accepted as the function of cost accounting to be given primary emphasis in this study.

There were two major phases to the work. The first consisted of surveying and digesting pertinent writings in current cost accounting texts, periodical literature and releases of various associations of accountants. Three chapters of text were written from material obtained from this survey, setting forth the specific elements of cost which should be included in the three basic cost components of manufactured goods: direct materials, direct labor, and manufacturing burden. The methods of applying these costs to product units and of valuing the inventories on hand at the end of the year were examined.

The second phase was a study of selected companies in five industries by personal interviews with officers of these companies, using a planned interview guide. The industries involved, the number of companies and the approximate portion of the industry reached as measured by dollar volume of sales is indicated below:

| *Industry* | *Number of Companies* | *Approximate Percentage of Industry* |
|---|---|---|
| Confectionery | 5 | 20 |
| Ethical Drugs | 5 | 30 to 35 |
| Earth Moving Machinery | 6 | over 50 |
| Radio, Television and Electronics | 5 | 65 to 70 |
| Total | 21 | |

The companies selected did not represent a scientific random sample, but were selected because of the relatively high concentration of business in a few companies, their accessibility within a reasonable distance, the nature of their costing systems,

the existence of inventory problems and the attitudes toward cooperation with such a study.

The major conclusions reached were: (1) current cost accounting theory does provide a sound and workable guide as to items includible in the inventory of manufacturers, and (2) as a group, the companies studied should be considered orthodox in their accounting methods and procedures, although there was considerable variation on many individual cost elements. Some of the reasons for reaching these conclusions were:

1. Alternative procedures are presented as acceptable methods and theory has not been restricted to "one right way."
2. Writers of current texts have taken into consideration in their presentation the actual practice found in their contacts with the business world.
3. Official pronouncements by committees of accounting associations depend upon their general acceptability before they are considered as binding.
4. Accounting principles are guides to action which have proved useful in practice and have become generally acceptable; theory and practice in accounting usually develop together.

Nearly all of the procedures actually used by the companies included in the field studies were described in current cost accounting literature, at least in all major respects. Although some of these practices deviated from the majority opinion and were not endorsed in the literature as representing the best procedures, few were condemned outright.

A principal contribution of this study was to point out that there were certain elements of cost properly includible in raw material cost which were treated either as burden or period costs by a majority of the companies. These items represent part of the cost of getting the raw materials to their "existing condition and location." It is recommended on the basis of this study that transportation inward for raw materials (unless a direct application to specific materials is feasible), purchasing department costs, receiving department costs, materials testing and inspection, and the applicable portions of material control and accounting, and storage and handling costs be applied as additions to the material cost at the time of receipt through the use of a materials burden rate based upon invoice cost or other suitable basis. Failure to include these elements in material cost results in understatement of raw materials inventory and of income in the first year of operations. Although consistent use of other procedures, such as including these items in burden or as period costs, may not have a material effect on profits in succeeding periods unless the size of the inventory or the relative portion of total cost represented by materials changes, the advantages of the use of a material burden rate are sufficient to recommend its use in some industries in which the procedure may be applied at a reasonable cost.

Other specific recommendations made were:

1. That the use of uniform accounting systems be extended by industry to provide better intercompany comparisons and other advantages.
2. That cash discounts on purchases be treated as cost reductions through the use of the "net price" procedure.
3. That better matching of costs with revenue may be obtained if cost is used for inventory valuation when cost can be recovered in future periods and that the lower of cost or market rule should be used more sparingly and with the limitations that it apply only when sales prices do respond closely to changes in cost prices. Reductions from cost to market should be isolated as special items in the income statement, preferably below the gross profit from manufacturing operations.
4. Each industry should develop more uniform practices as to the content of the net sales section of the income statement.
5. Each industry should study the problem of the capacity level upon which burden rates are set and strive for more uniformity of

procedure. Use of different capacity levels may well result in differences in amounts of fixed burden costs included in inventory value.

## THE INFLUENCE OF THE U. S. SECURITIES AND EXCHANGE COMMISSION UPON THE PRACTICE OF AUDITING

William Elmer Whittington, Jr.
University of Illinois, 1957

The study has been confined to an examination of the liability provisions contained in the Federal Securities Acts of 1933 and 1934, the effect of governmental regulation on the accounting profession based on those acts, and an evaluation of the Commission's influence on auditing procedures, standards, certificates, and the personal conduct of accountants. Included in the latter evaluation has been the study of events leading up to Commission pronouncements and decisions and the effect they have had on the various phases of auditing.

The liability provisions included in the two acts were found to have been designed as precautionary measures and were not the result of auditing practices prior to 1933. These provisions have been the basis for thirty-eight law suits—only one of which has been filed against an accountant.

The extension of audit procedures affecting the examination of inventories and the circularization of accounts receivable grew out of the McKesson and Robbins investigation. While these procedures had been advocated by authorities in the field of auditing and were often included in audit programs, they were not considered mandatory. Practitioners adopted these procedures as an integral part of their audits prior to action on the part of the Commission.

Auditing standards appeared necessary to regain public confidence through the assurance that examinations by public accountants were up to a specified level of performance. Auditing standards prior to their requirement by the SEC were on an individual basis, and the need for a profession-wide adoption was apparent. A special committee appointed by the American Institute of Accountants proposed a set of standards which was subsequently adopted.

Early decisions of the Commission regarding audit certificates indicate the prevalence of faulty certificates accompanying SEC registrations. An analysis of those decisions indicates the evolution of the present audit certificate along the line of scope of the audit, opinion to be expressed, and, finally, full disclosure. The advocacy of these elements by authorities in auditing had preceded the Commission's action by a period of years. The requirements of the Commission accelerated the adoption of a clear, concise statement of the auditor's examination and his opinion as to the fairness of the financial statements. The study of the personal conduct of the auditor has been divided into two sections: independence and ethics. The Commission has conscientiously observed its responsibility to investors in its interpretation of the Securities Acts and its own rules regarding the independence of the accountant. It has been held that certain relationships between an accountant and his client impair that independence. The application of objective rules to a matter as subjective as independence has been the basis for the principal disagreement between the Commission and the accounting profession. The principal influence of the Commission has been to make the practitioner conscious of his independence and to cause him to avoid relationships which might be held to impair that independence. The influence of the SEC on professional ethics has been found to be negligible. The

present rules are substantially the same as at the time of the creation of the Commission.

The relations between the Commission and the profession have been found to have been cordial and based upon mutual respect. Any regulatory influence has been for the benefit of the profession as a whole. The greatest single benefit has been the Commission's support for the adoption of auditing practices previously advocated by members of the profession which had not received profession-wide acceptance.

## MANAGEMENT PRACTICES WITH RESPECT TO INTERNAL TRANSFER PRICING IN LARGE MANUFACTURING COMPANIES

Williard E. Stone
University of Pennsylvania, 1957

Intracompany transfer pricing has achieved wide-spread but not universal use among large manufacturing corporations. As a management tool it may fulfill different roles and, in addition, there exist various pricing methods, the choice of which is influenced by factors both within and external to the individual company. A mail survey was undertaken to provide an insight into the role played by intracompany pricing as a management tool and the related management practices, developed more or less independently by manufacturing companies.

Using the Federal Trade Commission list of 1,000 large manufacturing companies, 505 companies were selected with intentional emphasis upon corporations over $50 million in asset size. A 70 per cent return of questionnaires provided the basis for the study. Additional information was secured through correspondence and interviews with officers of corporations on problems of particular interest.

Transfer pricing in its most elementary role assists in the physical control of transferred product. Further developed, it becomes a powerful management device for control of business segments. The most important factor influencing the adoption of a particular transfer pricing method—market, cost, or negotiated price—is the existence of a market for the product. Other factors include organization structure of the company, the volume of intracompany transfers, operations in both extractive and manufacturing stages, the history of a particular company and individual preferences of corporate officers. Both market and cost-based prices are widely used but negotiated prices are infrequently used and usually only in a supplementary way. A majority of pricing companies have more than one pricing method. Procedures such as the use of discounts from market price, the addition of nonfactory cost elements to cost-based prices, and the degree of authority granted unit managers in transfer pricing differ between individual companies. Examination of the legal aspects of intracompany pricing discloses that Federal corporate net income tax regulations should not seriously restrict the use of a pricing method chosen for a business purpose and in the absence of practices restrictive to free competition, antitrust laws need have little influence upon the choice of a pricing method. Foreign customs laws, however, where applicable, require use of specific pricing methods.

Procedures and practices relative to intracompany transfer pricing have developed to meet the needs of individual companies. However, the spread of internal pricing throughout American industry has been influenced largely by factors external to the individual firm. The typical large corporation which prices transfers uses more than one method of pricing because it manufactures varied types of products with varying market conditions. The

role of transfer pricing in corporate controls depends largely on the organizational structure. Management demands upon transfer pricing have increased over the past twenty years and it is likely that its role will assume increasing importance as a control device in the future.

## A SURVEY OF ELECTRONIC DATA PROCESSING AND ITS POTENTIAL IMPACT UPON ACCOUNTING PROCEDURES, PERSONNEL, AND EDUCATION

Robert Theodore Tussing
The University of Texas, 1957

The recent emergence of the term "Electronic Data Processing" (frequently called "EDP") has focused attention upon the data processing problem as one common to all business activity today. Most writing on the subject so far has, however, been fragmentary and filled either with vague and sometimes glowing generalizations or with confusing details peculiar to a particular case.

The major purpose of this dissertation has been to present a non-technical description of EDP equipment, the EDP method, and actual and proposed applications, comprehensive enough to provide a general understanding of the field—a basis upon which to build a more intensive study in any desired area of specialization. For the most part, this dissertation is a distillation and synthesis of information available from published and unpublished reports. It is also based upon field interviews with seven different firms which have installed or are installing EDP equipment, conferences and correspondence with representatives of equipment manufacturers, and discussions with several educators who are pioneering in the field. Emphasis was placed upon accounting applications on basis of the contention that the controller's department is the center, or point of focus, of business data processing activities.

EDP is described as a method of processing information in *dynamic form*, with the *speed* of electronic circuitry, and the *flexibility* of internal programming. An electronic computer is defined and described functionally. The types and importance of auxiliary equipment are discussed. A brief outline of the evolution of the equipment and its early applications in business is presented.

Some representative accounting applications are described in basic terms and potential contributions of the method to management and control are discussed realistically. Personnel requirements and problems in converting to EDP are discussed, with a description of the new positions which are being created.

An organizational pattern for investigating EDP possibilities for a particular firm is outlined, along with two approaches to analysis of procedures: the "Conventional" approach of attempting to convert present processing to an EDP system, and a proposed new "Central Files Approach" to creative systems analysis. This latter concept is based upon the notion that most useful information is already being collected in some central records file, or could be, as a by-product of gathering essential information. Instead of tracing an information-processing chain from source document to ultimate disposition, this approach focuses upon the point where the data have been assembled and projects the analysis in either the direction of gathering or utilization. Processing chains are thereby cut in half.

To give a specific illustration of the significance of many of the factors, a case study is presented which includes a description of the organization, equipment, and activities of a data processing center

before and after conversion to a medium-scale EDP system. There is also an analysis of differences and a consideration of major factors involved in the changeover, a summary of improvements which have been achieved, and a projection of possibilities offered by a large-scale EDP system.

The need for including EDP in the curriculum of a collegiate school of business is considered. Several possible courses of action are discussed, ranging from simple orientation presentations to the development of a full-fledged major field of study in the area of systems and controls. Equipment with which the ideal of integrated data processing can be achieved is now available. Its effective utilization depends upon the creative ability and thinking *of people.*

## THE GOING CONCERN CONCEPT IN ACCOUNTING

Dorsey Edward Wiseman
University of Illinois, 1957

The postulates of accounting, among them the going concern concept, have been characterized as habits of mind. Almost every writer who has attempted a reasonably complete exposition on accounting has stated or implied acceptance of the going concern concept. In few cases, however, has there been any attempt to sketch other than the barest outline of the going concern concept. This study has the following purposes: to set forth:

1. The nature of the going concern concept.
2. The placing of this concept in accounting.
3. The consequences of the uses of the concept.
4. The social significance of the concept.

A comprehensive version of the going concern concept entails consideration of the life of the firm, the legal and social framework surrounding the accounting entity, the productive and distributive aspects of the enterprise, the financial plans of the organization, the management of the business unit, and the proprietor's expectations. The life of the enterprise may be assumed to be indefinitely long unless there is clear intent and circumstances to indicate otherwise. In addition it may be assumed that the basic ownership and managerial objectives, plans, and policies will be continued in a substantially unaltered manner in the future. Underlying the whole going concern concept is the assumption that there will be a reasonable stability of the institutions of our economic society.

The going concern concept in accounting provides a point of view to facilitate and implement assembling, communicating, and interpreting enterprise financial information. However, there is not complete unanimity of opinion as to the application of the going concern concept to the financial data of the firm. Also there has been a continuing evolution in accounting and a concomitant refinement in the application of the going concern concept in accounting.

The highest degree of objectivity in accounting is the best, provided attainment of that high degree does not run counter to the long-run point of view of a going concern. A complete application of the going concern concept would call for a reporting of those income generating activities which do not appear in current conventional reports. The going concern concept also would support an expanded use of the deferring of appropriate costs and their proper assignment to subsequent periods. From a broad view the going concern concept would be compatible with either a historical cost or a replacement cost approach to inventory and fixed asset accounting. The going concern viewpoint co-ordinated with the legal viewpoint may furnish a more significant

presentation of liabilities. From the standpoint of the going concern concept the liability category may include more than those inescapable amounts payable to creditors under established contractual agreements. The firm also may encounter situations which lead to liquidation, reorganization, combination, and other unusual situations. The underlying assumptions of the going concern concept may be viewed as the criteria to apply to determine the going concern aspects of these special situations. Also the underlying assumptions may be considered as standards or points of departure for the development and the application of procedures to meet the exigencies of the special situations.

## A COMPARATIVE STUDY OF CERTAIN ACCOUNTING INSTITUTIONS AND PRACTICES IN ENGLAND AND IN THE UNITED STATES

Bro. LaSalle Woefel
University of Texas, 1957

The knowledge that the average accountant possesses of his profession is almost exclusively restricted to institutions, principles, and procedures in his own country. The fact that relatively little research has been done on the subject of foreign accounting is cause for some concern.

The areas of accounting and auditing in the United States and in England which were selected for comparative study were: (1) the legal position of the profession, (2) the codes of professional conduct, (3) the professional examinations, (4) professional education (5) the objectives of auditing, and (6) audit programs for inventory and for accounts receivable. An evaluation of major aspects of these areas concluded the study.

In England, The Companies Act of 1948 determines which accountants shall be qualified for appointment as auditors of regulated, publicly-owned companies. Membership in a recognized accounting institution is usually required. In the United States, each state regulates the practice of public accountancy.

In England, three methods have been adopted for admission into the professional accounting institutes: (1) under articles of clerkship, (2) under the bylaws of the institutes, and (3) under the university scheme. In the United States, admission to the practice of public accountancy is regulated by state law.

In England, under common law an auditor is held responsible to the party who appointed him according to the terms of the contract. Civil liabilities also result from negligence or from the unskilled discharge of duties. Criminal liabilities of auditors arise from conduct which constitutes a crime. Court decisions in the United States reflect similar legal responsibilities for accountants.

The Preliminary Examination of the Society of Incorporated Accountants in England tests general knowledge (history, geography, physics, biology, and foreign language). The Intermediate Examination covers accounting, auditing, taxation, commercial knowledge, and English law. Final examination subjects include advanced accounting, auditing and investigations, managerial and cost accounting, economics, taxation, and law. The uniform C.P.A. examination in the United States consists of auditing, theory of accounts, accounting practice (Parts I and II), and commercial law.

The approved degree courses for accounting programs of twelve English universities include the following major areas: accountancy, economics, and law. A typical university curriculum for account-

ing majors in the United States is presented in this dissertation.

In England there is no published code of professional conduct for accountants. The basic rules of professional conduct are found in royal charters, articles of association, bylaws, pronouncements of councils, officers, and disciplinary committees, members' handbooks, governmental directives, etc. Authoritative statements in the United States on professional conduct come primarily from the professional accounting associations, governmental agencies, and state accountancy legislation. Specific items of professional conduct analyzed in this dissertation include the following: advertising, soliciting for business, combining with other business practice, receipt and payment of commissions, replacement of one auditor by another, competitive bidding, independence, certification of estimates of future profits, confidential relations, fees contingent upon findings, professional titles, etc. The enforcement procedures of standards of professional conduct in England and in the United States are described in detail.

A study of the audit program in England with respect to inventory was developed according to the following plan: (1) auditor's responsibility under The Companies Act of 1948, (2) methods of valuation of inventory, (3) methods of verification of inventory, (4) use of the stock certificate, and (5) balance sheet presentation. An audit program for accounts receivable in England was presented. In discussing audit programs for inventory and for accounts receivable in the United States, the audit programs presented in four representative auditing texts were selected for analysis.

Conclusions of this comparative study indicate basic agreement with respect to (1) interpretation of standards of professional conduct, (2) increasing emphasis on university education, and (3) concern over existing apprenticeship, experience, and examination procedures.

## NON-FACTORY COSTS AND THE PERIOD CONCEPT: AN ANALYSIS OF CERTAIN ACCOUNTING PRACTICES IN MANUFACTURING ENTERPRISES AND THEIR EFFECTS ON REPORTS TO MARKETING MANAGEMENT

Richard S. Woods
University of Pennsylvania, 1957

Sales result in part from marketing effort measured by expenses or costs incurred in periods preceding that in which the sales materialize. Consistently, parts of current marketing costs are related to sales of future periods. If current marketing expenses are matched against current sales, the net income or contribution resulting may be an imperfect measure of operating results. The purpose of the dissertation is to examine these statements critically, through an examination of corporate accounting practices relating marketing costs to sales. The objectives include the identification of marketing activities that give rise to costs affecting sales of future periods, and determination of the extent to which conventional accounting practices in handling marketing costs may give rise to distortion of income.

Selected literature of marketing, economics and accounting covering the period 1926 through 1956 is examined. One hundred and thirty-two corporations returned more than two hundred questionnaires in acceptable form. The questionnaires are supplemented by personal interviews with controllers, assistant controllers and other officials of eight companies, and by correspondence with corporate officials other than those inter-

viewed. Finally, a case study of a large manufacturing corporation is presented.

Marketing activities which sometimes require large current expenditures that relate to future rather than current sales include introducing new products; opening new territories; conducting campaigns of extraordinary scope and intensity to increase a company's share of the market; distributing advertising expenditures over time in a pattern different from seasonal or other sales patterns; and employing advertising at a stage in the marketing channel different from that of the firm sponsoring the advertising.

However, present business practice, with limited exceptions, is to charge current marketing costs against current sales. This is true whether or not situations occur that cause marketing effort to be directed toward future sales. It is difficult in most cases to relate past costs to present sales, or present costs to future sales. Some officials believe that deferring costs until the future will increase immediate income taxes, and reduce the amount of working capital available for expansion. Other officials hesitate to depart from "generally accepted accounting principles" or do not believe that distortion caused by failure to defer marketing costs would be material in amount.

Exceptions to general practice are found in a number of situations, most of which do not involve substantial amounts. However, costs which are large in dollar volume are sometimes deferred in the case of new product introductions, or prior to the publication of advertisements used for special promotions.

No precise methods are available to take the above factors into account. A methodology which would approximate the effect of the delayed sales reactions to advertising can be developed, however, and such a methodology is presented in the dissertation. The methodology applies only to internal statements prepared for the use of management. Product and product line statements are the primary examples. The methodology is not recommended for published company-wide statements.

It is believed that technical adjustments should be made on internal statements despite the fact that conventional reports are obviously discounted in most companies by those who use them. Technical adjustments are now widely used to mitigate seasonal distortions of income. The use of additional adjustments is recommended to correct distortion occasioned by introductory advertising and time lags in the channel of marketing.

## AN EVALUATION OF ANNUAL REPORTS OF SELECTED INDUSTRIAL CORPORATIONS FOR COMPLIANCE WITH CERTAIN STANDARDS OF ACCOUNTING RESEARCH BULLETIN NUMBER 43

Edgar Ben Yager
Indiana University, 1957

This study was undertaken to determine whether the standards of Accounting Research Bulletin No. 43 have been sufficiently accepted by the accounting profession to constitute generally accepted accounting principles. The method of the study was the evaluation of information presented in a random sample of 261 annual reports against criteria established from these selected areas in ARB 43: Inventories, Depreciation and High Costs, Depreciation and Amortization of Emergency Facilities, Contingency Reserves, and Comparative Statements. A request was written to the auditor whose opinion accompanied the statements containing apparent divergencies, asking his justification of the presentation. Replies were received from 63 of the 140 auditors ques-

tioned, dealing with questions raised in 120 of the 215 annual reports in which apparent divergencies were found.

The divergencies most frequently found in the annual reports were the omission of full information on the valuation of inventories and the omission of comparative statements. Many of the replies from the auditors questioned the meaning or authority of ARB 43, and 18 of the auditors referred to *Accounting Trends and Techniques* tabulations as indicators of accepted practice.

The combined final evaluation ratings were 64.22 per cent as a satisfactory level of compliance and 35.78 per cent as unsatisfactory. The two areas of standards offering clearest bases for evaluation, Inventory and Comparative Statements, combined showed 45.6 per cent as satisfactory and 54.4 per cent as unsatisfactory. Limited access to information for evaluation and frequent lack of clarity as to the requirements of ARB 43 were factors possibly affecting the results.

The conclusion from the study was that ARB 43 need not be considered as constituting generally accepted accounting principles. The results indicated the need for study into what does constitute generally accepted accounting principles or for a codification of principles which can become generally accepted.

## A STUDY OF THE ACCOUNTING GRADUATES OF FIVE SELECTED ALABAMA SCHOOLS OF HIGHER EDUCATION, 1946-1955: THEIR OCCUPATIONAL HISTORY AND THEIR OPINIONS RELATIVE TO THEIR TRAINING

Percy Baxter Yeargan
University of Alabama, 1957

The purpose of this study was to obtain occupational data and opinions relative to their training from graduates who have majored or concentrated in accounting. Those accounting majors who graduated during the ten years 1946–1955 from the following institutions of higher education have been included in the study: Alabama Polytechnic Institute, Birmingham-Southern College, Howard College, Spring Hill College, and the University of Alabama.

Questionnaires were mailed to 1,152 accounting majors, all those whose addresses were known. One hundred thirty-three were returned by the postal authorities for lack of current addresses of the graduates. Replies were received from 466 accounting graduates, 46 per cent of those who presumably received the questionnaire. The replies to each part of the questionnaire were tabulated by years of graduation for each school and the resulting tables are presented as an appendix. The data are grouped into personal data, occupational data, non-occupational activities, opinions, and comments by the respondents. A sample of the comments by the graduates of each participating school is given.

The characteristics of the entire group of respondents are discussed as well as the differences within the group. Roughly three-fourths of the respondents were from Alabama high schools. Sixty-six per cent were first employed, after graduation, by firms located in Alabama and 62 per cent are presently employed in Alabama. Industrial concerns employed about one-half of the respondents, public accounting firms slightly more than one-fourth, governmental agencies about one-tenth, and one-tenth were engaged in miscellaneous other types of employment.

Approximately three-fourths of the respondents were first employed after graduation in accounting positions and, at the time the questionnaire was completed, about the same numbers of them were still employed in accounting positions, or jobs closely associated therewith. The re-

spondents, except the more recent graduates, report present job titles that normally carry with them authority and responsibility. The ones who have been employed for about five years report present salaries that are, on the average, twice their starting salaries. Those who have been working nine or ten years report present salaries that average approximately three times their starting salaries.

A majority of the graduates who replied to the questionnaire are well pleased with their collegiate training. Using hindsight, many of the respondents mentioned areas in which they now think that more emphasis should be placed in collegiate training for an accounting career. Based upon the replies from the graduates, recommendations are made that consideration be given to the following: (1) Tests and guidance should be provided to enable the students to choose wisely a major field of study; (2) The students should be encouraged to include speech, public speaking, and personnel and human relations in their collegiate programs; (3) Training in English grammar, composition, and report writing should have more emphasis; (4) Survey courses should be provided to acquaint the students with mechanical and electronic accounting processes; (5) Internship programs are recommended, if not in existence, and should be brought to the attention of the students through the guidance program; (6) Other studies of this nature should be done.

It is believed that the detailed analysis of these and similar data will contribute to a more meaningful program for future accounting students.

# LIST OF RESEARCH PROJECTS IN ACCOUNTING: 1957–1958

ARTHUR E. CARLSON
*Member, Committee on Research Review*

THE 1957–1958 list of research projects is the ninth list published in recent years.[1] The annual totals of completed graduate student projects reported in recent years are:

| *Year* | *Master's Theses Completed* | *Doctor's Dissertations Completed* |
|---|---|---|
| 1950–1951 | Not available | 10 |
| 1951–1952 | 145 | 18 |
| 1952–1953 | 154 | 28 |
| 1953–1954 | 147 | 18 |
| 1954–1955 | 138 | 21 |
| 1955–1956 | 153 | 23 |
| 1956–1957 | 127 | 34 |
| 1957–1958 | 129 | 25 |

Master's theses are reported only upon completion. All doctoral dissertations and faculty research projects either in progress or completed during the period are reported.

Abstracts of many of the doctoral dissertations listed herein will appear in subsequent issues of THE ACCOUNTING REVIEW. Copies of doctoral dissertations and master's theses frequently can be secured on interlibrary loan from the library of the school to which they were submitted. When copies are not permitted to be withdrawn, libraries usually can supply photostatic copies of microfilm reproductions at reasonable costs.

The subject classification used for previously published reports on research projects is continued in this listing. Each project is listed only under one classification, although several projects might well be classified under two or more headings.

LIST OF RESEARCH PROJECTS IN ACCOUNTING: 1957–1958

I. THEORY OF ACCOUNTING
   A. Income Determination
   B. Price Level Changes
   C. Inventory Pricing and Valuation
   D. Fixed Asset Valuation and Depreciation
   E. Intangibles
   F. Investments
   G. Current and Fixed Liabilities
   H. Income Distribution
   I. Capital Stock and Surplus
   J. Partnership Problems
   K. Other
II. HISTORY OF ACCOUNTING
   A. Development of Accounting
   B. History of Particular Firms or Industries
III. REPORTS AND STATEMENTS
   A. Financial Statements—General
   B. Consolidated Statements
   C. Analysis of Statements
   D. Other
IV. PUBLIC ACCOUNTING
   A. Auditing
   B. Profession of Accounting
   C. C.P.A. Examinations
   D. Selection of Personnel
   E. Other
V. ACCOUNTING FOR INDUSTRIAL, MERCANTILE AND FINANCIAL ENTERPRISES
   A. Accounting Systems
   B. Budgeting
   C. Cost Accounting—Manufacturing
   D. Cost Accounting—Distribution
   E. Controllership and Managerial Accounting
   F. Internal Auditing
   G. Case and Industry Studies
   H. Machine Methods
   I. Other
VI. ACCOUNTING FOR NON-PROFIT ENTERPRISES
   A. Governmental Accounting
   B. Institutional Accounting
   C. Fiduciary Accounting

[1] The earlier lists appeared in the July 1951, January 1952, April 1953, April 1954, April 1955, April 1956, July 1957, and October 1958 issues of THE ACCOUNTING REVIEW.

VII. Legal and Governmental Aspects of Accounting
   A. Taxation
   B. Regulation
   C. Contracts and Contract Renegotiation
   D. Other
VIII. Reorganization and Liquidation
   A. Insolvencies and Bankruptcies
   B. Capital Readjustments and Reorganizations
IX. Education
X. Miscellaneous

## I. THEORY OF ACCOUNTING

### A. INCOME DETERMINATION

*Doctors*

Capital Maintenance and Its Implication in Income Determination, Benjamin L. Forbes, *University of Illinois*, (In Progress)

A Comparative Study of the Legal and Accounting Concepts of Net Income, Oscar M. Kriegman, *University of Illinois*, 1958

The Nature of Assets, Raymond L. McGarvey, *University of Illinois*, (In Progress)

Economic Concepts of Income and Profit and Their Relation to Accounting Theory, Rudolph Schattke, *University of Illinois*, (In Progress)

A Critical Analysis of Income Measurement by Products and Periods, William J. Schrader, *University of Washington*, (In Progress)

Concepts of Income—An Examination and Evaluation, George H. Sorter, *University of Chicago*, (In Progress)

Matching Revenues with Costs: An Analysis of Accounting Adaptation to Uncertainty, Reed K. Storey, *University of California* (*Berkeley*), 1958

Accounting for Executive Stock Options, Daniel L. Sweeney, *University of Michigan*, 1958

Periodicity and the Provision for Federal Income Tax, Paul H. Walgenbach, *University of Illinois*, 1958

The Concept of Realization and Its Application in Accounting, Floyd W. Windal, *University of Illinois*, (In Progress)

*Masters*

Some Aspects of Accrual Accounting, Dwight E. Baits, *San Diego State College*, 1958

Depreciation; A Study of the Problems Arising From Differences in Concepts Held by Accountants, Businessmen, and Government Officials, James D. Ryan, *Miami University*, 1958

Determination of Income, Jerrell F. Sims, *Louisiana State University*, 1958

The Treatment of Extraordinary Items in the Income Statement, Donald H. Taylor, *Louisiana State University*, 1958

National Income Accounting Procedures: A Critique, Bobbie Tippet, *University of Texas*, 1958

### B. PRICE LEVEL CHANGES

*Doctors*

The Effects of Price-Level Fluctuations on Accounting Data, Bernard F. Aschbacher, *University of Illinois*, 1958

An Evaluation of the Alternative Concepts for Measurement of Business Income, Richard C. MacAllister, *University of Florida*, (In Progress)

*Masters*

Fixed Asset Replacements in Fluctuating Price Level Periods, William Cooper, *City College of New York*, 1958

Fluctuating Price Levels in Relation to Accounting, George Deligianis, *City College of New York*, 1958

*Faculty Research*

Price Level Adjustments, A Case Study of Two Firms in the Electric Power Industry, E. S. Hendriksen, *State College of Washington*

### C. INVENTORY PRICING AND VALUATION

*Masters*

Inventory Control in the Fur Manufacturing Industry, Joseph David, *City College of New York*, 1958

Price Index and Its Implications on Accounting—With Emphasis on Recent Application in the Chemical Field, Thomas R. Prince, *Mississippi State University*, 1957

### D. FIXED ASSET VALUATION AND DEPRECIATION

*Doctors*

A Study of Problems in the Control of Depreciation Basis by the Government, Fazlollah Akbari, *University of Southern California*, (In Progress)

Depreciation in the Public Utility Industries—A Reconsideration, Donald L. Anderson, *University of Minnesota*, (In Progress)

Depletion: An Examination of the Theory and Practice, James R. Bentley, *University of Washington*, (In Progress)

Depreciation Policies of the Steel Industry for 1940–56 with Special Emphasis on the Adequacy of Depreciation Allowances to Cover Replacements, Clark E. Chastain, *University of Michigan*, 1958

*Masters*

Development of Accelerated Depreciation Methods and Their Effect on Current Accountings Practice, Robert E. Feller, *Ohio State University*, 1958

Depreciation and the Rising Price Level, Egon H. Kraus, *University of California* (Berkeley), 1958

A Survey of the Effects of the New Depreciation Policies, Thomas M. St. Clair, *Massachusetts Institute of Technology*, 1958

The Effects of Accelerated Amortization and Liberalized Depreciation on Electric Utilities, Willis S. White, Jr., *Massachusetts Institute of Technology*, 1958

H. INCOME DISTRIBUTION

*Masters*

An Accounting Study of the Nature and Classification of Corporate Dividends, Neil L. Cowen, *University of Illinois*, 1957

Accounting for Stock Dividends by Recipients, J. Gibson, *University of Washington*, 1958

I. CAPITAL STOCK AND SURPLUS

*Doctors*

Accounting for Paid-In Surplus, Clarence G. Avery, *University of Illinois*, (In Progress)

A Study of the Factors Influencing the Accounting Concept of Surplus, Billy L. Barnes, *University of Illinois*, 1958

Accounting for Corporate Capital—A Critical Examination, Robert G. Taylor, *University of Chicago*, (In Progress)

*Masters*

Accounting for Undistributed Profits of Unconsolidated Subsidiaries, Benjamin W. Giuliani, *Catholic University of America*, 1958

Treasury Stock and Mutual Stockholders, John Pick, *City College of New York*, 1958

*Faculty Research*

Accounting Principles and Corporation Law, Robert T. Sprouse, *University of California (Berkeley)*

K. OTHER

*Doctors*

An Analysis of the Balance Sheet in View of Recent Emphasis on Income Determination, J. Herman Brasseaux, *Louisiana State University*, (In Progress)

A Reevaluation of Accounting Concepts to Meet the Requirements of a Dynamic Economic Environment, Frederic Augustin Brett, *University of Alabama*, (In Progress)

The Extension of Accounting Techniques and Methodology Beyond the Enterprise, Werner G. Frank, *University of Illinois*, 1958

An Integration of Finance and Accounting Theory, Lyle E. Jacobsen, *University of Illinois*, 1958

Accounting Aspects of Self-Insurance Programs, Leslie R. Loschen, *University of Washington*, (In Progress)

Accounting Implications in Marginal Economic Theory, Robert G. Stevens, *University of Illinois*, 1958

*Masters*

The Accounting Entity in Business Combinations, David J. Farling, *Pennsylvania State University*, 1958

Concepts of the Entity Theory, Stanley W. Gustafson, *Michigan State University*, 1958

Differences in Accounting Principles and Practices in Non-Profit Institutions Compared with Profit-Making Concerns, John D. Schoonover, *Ohio State University*, 1958

Accounting for Selected Fringe Benefits, Jackson A. White, *Louisiana State University*, 1958

*Faculty Research*

Mathematical Models in Business Accounting, Richard V. Mattessich, *University of California (Berkeley)*, 1957

Messung, Vorausberechnung und Buchhaltungsmodelle, Richard V. Mattessich, *University of California (Berkeley)*, 1958

Towards a General and Axiomatic Foundation of Accountancy, Richard V. Mattessich, *University of California (Berkeley)*, 1957

II. HISTORY OF ACCOUNTING

A. DEVELOPMENT OF ACCOUNTING

*Doctors*

Development of American Accounting Thought, 1875–1925, Brother Patrick Hance, S.M., *Catholic University of America*, (In Progress)

Development of Accounting in the United States, Keith R. Heller, *University of Minnesota*, (In Progress)

B. HISTORY OF PARTICULAR FIRMS OR INDUSTRIES

*Doctors*

George S. Olive & Co.: A History of a Regional Public Accounting Firm, Robert M. Jennings, *Indiana University*, (In Progress)

## III. REPORTS AND STATEMENTS

### A. FINANCIAL STATEMENTS—GENERAL

*Doctors*

Criteria for Judging Disclosure of Post-Statement Events, W. Baker Flowers, *University of Texas*, (In Progres)

An Analysis of Annual Reports of Selected Industrial Corporations for Compliance with Certain Pronouncements of the American Institute of Certified Public Accountants, L. Vann Seawell, *Indiana University*, 1958

A Study of Notes to Financial Statements in Corporate Annual Reports, Thomas G. Secoy, *University of Illinois*, (In Progress)

The Concept of Full Disclosure in Current Accounting Practice, Delbert E. Williamson, *Stanford University*, (In Progress)

*Masters*

A Study of Long Term Leases as a Method of Financing and Their Effects On Financial Statements, Harold Lacoff, *City College of New York*, 1958

A Survey and Study of Contemporary Accounting Methods of Reporting Enterprise Income Activities, Richard U. Lansden, *University of Illinois*, 1957

The Concept of Full Disclosure, Victor E. Millar, *University of California* (*Berkeley*), 1958

Disclosure Practice for Selected Items of Corporate Balance Sheets, S.A. Siddiqui, *Agricultural and Mechanical College of Texas*, 1958

The Accounting Concepts of Conservatism and Consistency, Moh'd Baqar A. Zaidi, *University of Washington*, 1958

### C. ANALYSIS OF STATEMENTS

*Doctors*

Correlation of Fund Flows and Dividend Policies, James O. Horrigan, *University of Chicago*, (In Progress)

*Masters*

Examination and Analysis of Financial Statements Relating to Multi-Family Group Housing Projects, Stanley Pesner, *City College of New York*, 1958

### D. OTHER

*Masters*

An Evaluation of the Financial Statement in the Annual Reports of Open-End Investment Companies, Donald F. Pabst, *Ohio State University*, 1958

Allocation of Federal Income Taxes in Financial Statements, Jerry D. Sullivan, *The George Washington University*, 1958

*Faculty Research*

Income Statements vs. Funds Statements as a Basis for Investment Decisions, George J. Staubus, *University of California* (*Berkeley*)

## IV. PUBLIC ACCOUNTING

### A. AUDITING

*Doctors*

A Study of the Nature and Development of Auditing Standards in the United States, Abdel-Moneim Mahmoud Abdel-Moneim, *University of Illinois*, 1958

*Masters*

Significance of Scientific Sampling Methods Upon Test Checking in Auditing, Alan Birnbaum, *City College of New York*, 1958

Auditing and Electronics: A Case Study Involving the Pacific Telephone and Telegraph Company, Donald Borque, *University of Washington*, 1958

A Case Study by Internal Auditors Using Statistical Sampling Techniques in Evaluating the Efficiency of Transportation Activities of the Commodity Credit Corporation, Dan D. Davis, *Southern Methodist University*, 1958

An Audit Program Developed for Casinghead Gas Contracts, Homer B. Erickson, *University of Texas*, 1958

Stockbrokerage Audits as Required by the New York Stock Exchange, Daniel J. Gaenger, *Hofstra College*, 1958

Bank Audits by Public Accountants; Requirements of and Benefits to the Bank as a Going Concern, Joseph M. Hill, *Texas Technological College*, 1958

Factors in the Development of the Auditor's Certificate, Leon S. Lipp, *City College of New York*, 1958

*Faculty Research*

Compliance with Auditing Standards in Respect to Expression of Opinion on Financial Statements, Alan R. Cerf, *University of California* (*Berkeley*)

### B. PROFESSION OF ACCOUNTING

*Doctors*

Legal Liability in Public Accounting Practice, Robert G. Berryman, *University of Illinois*, 1958

An Analysis and Evaluation of Management Ad-

visory Services by Practicing C.P.A.'s, James E. Redfield, *University of Texas*, (In Progress)

A Suggested Long-Range Professional Program in Public Accounting at the Graduate Level, John B. Ross, *University of Alabama*, (In Progress)

*Masters*

An Analysis of the Seaboard Case and Its Implications for Public Accounting, Harold A. Buesing, *University of Illinois*, 1957

Independence and the Certified Public Accountant, William H. Hoffman, Jr., *University of Texas*, 1958

Ethical Problems of Certified Public Accountants in Tax Practice, Emil M. Phillips, *University of Illinois*, 1958

Women in Public Accounting, Joyce Smalley, *University of Texas*, 1957

The Impact of Automation on the Accounting Profession, Jerome Weiler, *University of Denver*, 1958

*Faculty Research*

The Public Accounting Profession in California, A. B. Carson, *University of California* (*Los Angeles*), 1958

Education for Accountancy, Harry Simons, *University of California* (*Los Angeles*)

E. OTHER

*Masters*

Legal Hazards of Public Accounting, John H. Brydels, *Louisiana State University*, 1958

Some Aspects of a Public Relations Program for Certified Public Accountants, Clyde McLane, Jr., *Texas Technological College*, 1958

An Analysis of the Organization, Administration, and Internal Operation of Four Certified Public Accounting Firms, Royal B. Okumoto, *University of California* (*Berkeley*), 1958

*Faculty Research*

Demand for Public Accounting Services in California, L. L. Vance, *University of California* (*Berkeley*)

## V. ACCOUNTING FOR INDUSTRIAL, MERCANTILE AND FINANCIAL ENTERPRISES

### A. ACCOUNTING SYSTEMS

*Doctors*

The General Purpose Cost Accounting System as a Basis for Management Decision, H. Morton Backer, *University of Pittsburgh*, (In Progress)

Accounting-Information Systems in Firms, Charles P. Bonini, *Carnegie Institute of Technology*, (In Progress)

Control Criteria of Accounting System Design, James B. Bower, *University of Texas*, (In Progress)

*Masters*

Some Observations on the Installation of Electronic Computers, Doris Carlston, *University of California* (*Berkeley*), 1958

Electronic Data Processing and the Keeping of Accounting Records, Paul L. Hill, *Texas Technological College*, 1958

Requirements of a Satisfactory System of Internal Control for the ABC Company, James A. Klaas, *Emory University*, 1958

Investigating Electronics for Accounting Applications, Robert E. Malcolm, *Ohio State University*, 1958

An Approach to Systems and Procedural Analysis, James E. Pinkerton, *Ohio State University*, 1958

Accounting for Revenue from Oil and Gas Production, W. Rowland Reed, *University of Texas*, 1958

The Establishment of a Perpetual Inventory Control System in a Plumbing Supply Company, George J. Romberg, *Emory University*, 1598

The Operation and Accounting Controls of a Pari-Mutual System, Stanley I. Siegel, *University of California* (*Berkeley*), 1958

*Faculty Research*

Internal Pricing in Delegation Models, A. Charnes and W. W. Cooper, *Carnegie Institute of Technology—Northwestern University*

Models of Accounting Control Systems, W. W. Cooper, *Carnegie Institute of Technology*

Accounting System to Provide Management Information for Frozen Food Locker Operators, Robert L. Dickens, *Duke University*

Integrated Systems—Men and Machines, Paul Kircher, *University of California* (*Los Angeles*)

Use of Computers in the Federal Government, Paul Kircher, *University of California* (*Los Angeles*), 1958

### B. BUDGETING

*Doctors*

An Evaluation of Return on Investment Concepts as Applied to Capital Additions, Bill Bishop, *University of Texas*, (In Progress)

An Inquiry into the Theory of Budgeting, Gordon B. Davis, *Stanford University*, (In Progress)

A Study of the Use and Limitations of Budgetary

Control Systems for Marketing, Joseph W. Newman, *Harvard University*, 1958

A Survey of the Planning and Control Practices of Leading American Companies with Particular Emphasis on Budgeting, Burnard H. Sord, *University of Texas*, 1958

Budget Control and Cost Behavior, Andrew C. Stedry, *Carnegie Institute of Technology*, (In Progress)

The Use of Variable Budgeting as a Device for Management Planning and Control in the Machine Tool Industry in Northeastern United States, John Yung Dong Tse, *Harvard University*, 1957

*Masters*

Budgeting Techniques as Applied to Small Businesses, Jack G. Hudson, *Louisiana State University*, 1958

C. COST ACCOUNTING—MANUFACTURING

*Doctors*

An Appraisal of Direct Costing, Carl Dennler, Jr., *University of Wisconsin*, (In Progress)

Period Costing Versus Product Costing, James T. Johnson, *Louisiana State University*, (In Progress)

Accounting for Spoilage, Samuel Laimon, *University of Chicago*, (In Progress)

Direct Costing in Theory and Practice, Gerald O. Wentworth, *Stanford University*, (In Progress)

*Masters*

Distribution of Log Costs in the Lumber Industry, Bruce P. Budge, *University of Idaho*, 1958

An Analysis of Tire Costing in a Tire Plant for the XYZ Rubber Company, Denzil Y. Causey, *Emory University*, 1958

Cost Allocation of a Barrel of Crude Oil, Gordon B. Foster, *University of California (Berkeley)*, 1958

A Study of the History and Development of Cost Accounting and Its Application to the Small Manufacturer, Eldon R. Fuller, *Brigham Young University*, 1958

A Study of Arbitrary Methods of Product Cost Determination in the Oil Refining Industry, Burton R. Garmany, *Louisiana State University*, 1958

Analysis of Manufacturing Cost Variances, Tribhowan N. Jain, *University of California (Berkeley)*, 1958

Cost Accounting in the Wire Insulating Industry, Rudolph A. Marmaro, *Hofstra College*, 1958

Standard Cost Accounting in a Diversified Textile Manufacturing Organization, Maurice Polk, *University of North Carolina*, 1958

Control of Research and Development Cost, Francis A. Thibodeaux, *Louisiana State University*, 1958

The Development of Cost Information for the Control of Production Costs, Murray M. Galloway, *Louisiana State University*, 1958

D. COST ACCOUNTING—DISTRIBUTION

*Masters*

Accounting for a Distributor in the Motion Picture Industry, Nathaniel Leichter, *City College of New York*, 1958

E. CONTROLLERSHIP AND MANAGERIAL ACCOUNTING

*Doctors*

A Critical Analysis and Evaluation of the Theory and Application of Return on Investment in Measuring Managerial Performance, E. J. Blakely, *University of Texas*, (In Progress)

Control of Material, Labor, and Burden Costs for Different Levels of Management, Don T. DeCoster, *University of Texas*, (In Progress)

Direct Costing, Philip E. Fess, *University of Illinois*, (In Progress)

Procedures of Controlling Capital Expenditures, Erich A. Helfert, *Harvard University*, 1958

Capital Expenditure, Policies and Procedures, John B. Matthews, Jr., *Harvard University*, 1957

Decision Costs, Philip Meyers, *University of Texas*, (In Progress)

An Investigation of Operations Research and Some of Its Effects upon Accountancy, Charles F. Nagy, *University of Alabama*, (In Progress)

Accounting Measurement of Labor Productivity, Ted M. Rabun, *University of Illinois*, (In Progress)

Use of the Rate of Return on Investment in the Evaluation of Performance, William Rotch, *Harvard University*, (In Progress)

Use of Bayes Decision Theory in Quality Control, Arthur Schleifer, *Harvard University*, (In Progress)

Mathematical Analysis of Costs (Use of Analytic Geometry Emphasized), Robert B. Sweeney, *University of Texas*, (In Progress)

Leaseholds—Their Disclosure and Financial Consequence, Roy E. Tuttle, *University of Minnesota*, (In Progress)

Corporate Liquidity and Fund Management: A Study of Liquidity, Policies and Practices in Large Manufacturing Companies, Robert F. Vandell, *Harvard University*, 1958

*Masters*

A Critical Analysis and Evaluation of the Controllership Function, Don T. DeCoster, *University of Texas*, 1958

A Cost Comparison Study in a Steel Mill's Maintenance Machine Shop, James E. Donaghy, *Massachusetts Institute of Technology*, 1958

Organization and Accounting for Profit Responsibility, James H. Eacker, *Massachusetts Institute of Technology*, 1958

Some Aspects of Intracompany Pricing; With Emphasis on Safeway Stores, Kenneth S. Johnston, *University of California (Berkeley)*, 1958

Responsibility Accounting, Robert N. Kearns, *Louisiana State University*, 1958

Pricing Internal Transfers—A Problem in Intra-Company Transfers, Tsui Ophir, *Massachusetts Institute of Technology*, 1958

Use of the Break-Even Chart in Managerial Control, Bernard Waxelbaum, *City College of New York*, 1958

Accounting for Construction Equipment, David S. Willman, *University of California (Berkeley)*, 1957

*Faculty Research*

Adequacy of Corporate Reporting for Investment Decision Making, Alan R. Cerf, *University of California (Berkeley)*

F. INTERNAL AUDITING

*Masters*

Contemporary Reports and Reporting Practices of Internal Auditors, Myron B. Alvord, *San Francisco State College*, 1958

An Investigation into the Theoretical and Practical Application of Internal Control in Modern Hotels, Coral R. Bailey, *University of Denver*, 1958

A Statistical Approach to the Evaluation of Internal Control, Ronald G. Brown, *University of California (Berkeley)*, 1958

The Relationship of Internal Auditing to External Auditing, Fred J. Cox, *Ohio State University*, 1958

Internal Auditing in the Smaller Utah State Banks, John E. Cutler, *University of Utah*, 1958

The Role of Internal Auditing in Management Control, David M. Hoffman, *University of Texas*, 1958

A Survey of Management Opinion on the Use of Internal Auditing as an Administrative Tool, George M. Olson, *University of California (Berkeley)*, 1957

Internal Control System for Cash in Small Y.M.C.A.'s, Sung Soon Song, *Southern Methodist University*, 1958

*Faculty Research*

Internal Auditing Reporting Practices, Robert H. Van Voorhis, *Louisiana State University*

G. CASE AND INDUSTRY STUDIES

*Doctors*

First Public Stock Financing of Small Corporations, Vincent M. Jolivet, *Harvard University*, 1957

The Use of Stock Subscription Rights in the Financing of Gas and Electric Utility Companies, Leonard C. R. Langer, *Harvard University*, 1958

Financial and Accounting Problems in the Expansion of the Natural Gas Industry, Paul LaGrone, *University of Alabama*, (In Progress)

Life Insurance Accounting, James W. Noehl, *University of Minnesota*, (In Progress)

Internal Control Practices of Missouri Banks, Ralph Skelly, *University of Alabama*, (In Progress)

*Masters*

Airport Accounting, Donald W. Gray, *Ohio State University*, 1958

An Application of Direct Costing to Canneries, Maurice S. Moyal, *University of California (Berkeley)*, 1958

Controlling Effects of Copper Price Fluctuations on Inventories, Sterling Parrish, *University of Washington*, 1958

H. MACHINE METHODS

*Doctors*

The Impact of Electronic Data Processing on the Audit Function, Felix Kaufman, *University of Chicago*, (In Progress)

Study of Order-Processing Functions; Data Processing in Business, John P. McNerney, *Harvard University*, (In Progress)

*Masters*

Electronic Data Processing and Internal Auditing, Robert W. Davidson, *Northeastern University*, 1958

The Application of Electronic Digital Computers to Accounting in a Large Public Utility, Joseph T. Hydok, *City College of New York*, 1958

The Business Computer Feasibility Study, John A. Lawlor, *Northeastern University*, 1958

The Application of Electronic Computers to the

Business Office Problems, Matthew R. Pasquale, *The George Washington University*, 1958

Integrating Accounting Procedures for Tabulating Equipment, Robert H. Schwinn, *Miami University*, 1958

Manual versus Automatic Procedures in Certain Phases of Accounting, Robert X. Snider, *Hofstra College*, 1958

Electronic Data Processing and Accounting Control, John P. Thompson, *Temple University*, 1958

#### I. OTHER

*Doctors*

Monetary Policy and Sales Finance and Small Loan Companies' Funds, 1949–1954, Ray Edward Dawson, *Northwestern University*, 1957

*Masters*

Accounting for Trading Stamps at the Retail Level, Hollis A. Dixon, *Texas Technological College*, 1958

An Introduction to the Accounting Aspects of Break-Even Analysis, James T. Hood, *Louisiana State University*, 1958

Accounting for Pensions, Bokenfohr D. Kearns, *Louisiana State University*, 1958

Accounting for Trading Stamps, Phyllis G. Young, *University of California (Berkeley)*, 1958

*Faculty Research*

Electronics in Business, Gardner M. Jones, *Michigan State University*, 1958

### VI. ACCOUNTING FOR NON-PROFIT ENTERPRISES

#### A. GOVERNMENTAL ACCOUNTING

*Doctors*

Aspects of Managerial Control for Local Government Units in the Pittsburgh Area, P. William Capatch, *University of Pittsburgh*, (In Progress)

Financial Efficiency in Air Force Management: An Analysis of the Working Capital Fund Concept, Jack W. Coleman, *Indiana University*, 1958

Management Control System for County Highway Departments, Emerson C. Erb, Jr., *Indiana University*, (In Progress)

The Budgetary Control of Federal Expenditures, Panas Simasathien, *University of Illinois*, 1958

*Masters*

Problems of a Federal Agency in Adopting Accrual Accounting, Oscar C. Disler, *The George Washington University*, 1958

Appropriation Accounting in the State of Ohio on an IBM 650 Magnetic Drum Computer, Herbert J. Jones, *Ohio State University*, 1958

#### B. INSTITUTIONAL ACCOUNTING

*Doctors*

Control Problems of Smaller Colleges and Universities Doing Contract Research, C. Russell De Burlo, Jr., *Harvard University*, (In Progress)

The Organization and Utilization of Accounting Data for Managerial Purposes in General Hospitals, Robert E. Linde, *University of Michigan*, (In Progress)

*Masters*

Problems in the Accounting and Reporting of Public School Funds, Ronald E. Babcock, *University of Oregon*, 1958

Responsibility Accounting: A Cost Accounting System for Hospitals, Chauncey W. Tuttle, *Ohio State University*, 1958

### VII. LEGAL AND GOVERNMENTAL ASPECTS OF ACCOUNTING

#### A. TAXATION

*Doctors*

Third Structure Taxes; Applicability for Kentucky, Lewis C. Bell, *University of Kentucky*, 1958

An Analysis of Firms Not Adopting Accelerated Depreciation for Income Tax Purposes, Richard Lindhe, *University of Chicago*, (In Progress)

A Study of the Use Being Made of Liberalized Depreciation Methods under the 1954 Revenue Code, Leo A. Poland, *Indiana University*, (In Progress)

*Masters*

The Net Worth Method as Employed by the Internal Revenue Service in Federal Income Tax Cases, Arnold R. Barnett, *Pennsylvania State University*, 1958

Tax Acquisitions of Loss Corporations, Robert A. Behren, *City College of New York*, 1958

Changes in Accounting Methods for Federal Tax Purposes, Rob L. Berrett, *University of Washington*, 1957

Spreading Income Plans, Henry H. Bolz, *New York University*, 1958

Corporate Taxation and the Location of Industry: Idaho and Adjacent States, Robert W. Clark, *University of Idaho*, 1958

A Study of the State Tax Structure of Rhode Island, Josephine A. Del Vecchio, *University of Rhode Island*, 1958

The Effect of the 1954 Tax Code on the Accounting for Depreciation, Overton A. Faubus, *Agricultural and Mechanical College of Texas*, 1958

Long-Term Losses, Accounting Treatment vs. Tax Treatment, Robert S. Fell, *City College of New York*, 1958

The Net Worth Methods of Recomputing Taxable Income, Edward P. Fitzgerald, *The George Washington University*, 1958

A Study of Property Tax Mill Levy Limitation on Local Government Units in the State of Utah, Wells A. Grover, *Brigham Young University*, 1958

The Private Charitable Foundation—Its Role in Federal Income Tax Planning, Layton D. Hector, *University of Texas*, 1958

Case Studies on the Unreasonable Accumulation of Surplus, Albert I. Katz, *City College of New York*, 1958

The Reconstruction of Taxable Income by the Net Worth Method, Lydia E. Kess, *City College of New York*, 1958

Qualified Pension Plans for the Small and Medium-Sized Corporation, Norman M. Piltzen, *City College of New York*, 1958

A Study of Depreciation Accounting and Federal Taxation, Robert H. Rusk, *San Diego State College*, 1958

Federal Tax Considerations in Corporate Reorganizations, James A. Tassi, *City College of New York*, 1958

Tax Consequences of Separating Corporate Businesses, Gordon D. Zuber, *Agricultural and Mechanical College of Texas*, 1958

*Faculty Research*

Tax Allocation and Railroad Accounting, Alan R. Cerf, *University of California (Berkeley)*, 1958

The Burden of Collection: The Work Burden and Cost of Tax Collections by Businesses for Local, State, and Federal Governments, Fred J. Mueller, *University of Washington*

#### B. REGULATION

*Doctors*

Cash Working Capital Requirements in Regulated Companies, Jack H. Matthews, *Indiana University*, (In Progress)

Influence of S. E. C. on the Development of Accounting, Charleton Schoeffler, *University of Illinois*, (In Progress)

Rate of Return of Private Electric Utilities, William C. Tuthill, *University of Michigan*, (In Progress)

*Masters*

Valuation of Public Utility Properties for Rate Making Purposes, James Brown, *Michigan State University*, 1958

Some Accounting Aspects of the Regulation of the Natural Gas Producer by the Federal Power Commission, Tommy M. Carey, *Southern Methodist University*, 1958

The Relationship of Independent Public or Certified Public Accountants with the Securities and Exchange Commission, Kenneth M. Gibson, *Louisiana State University*, 1958

#### C. CONTRACTS AND CONTRACT RENEGOTIATION

*Masters*

Accounting for Government Price Redeterminable Contracts, Calvin Engler, *City College of New York*, 1958

Controlling Research and Development Costs, Edward J. Keohan, *Northeastern University*, 1958

Accounting for Cost-Plus-Fixed-Fee Contracts for Research and Development, Stanley Sachs, *City College of New York*, 1958

#### D. OTHER

*Doctors*

Accounting Concepts and Standards Underlying Social Regulation of Business, Hussein A. Sharaf, *University of Illinois*, (In Progress)

### VIII. REORGANIZATION AND LIQUIDATION

#### A. INSOLVENCIES AND BANKRUPTCIES

*Masters*

Accounting for Net Operating Losses in Corporate Reorganizations, Liquidations, and Other Conditions, Philip C. Owens, *City College of New York*, 1958

#### B. CAPITAL READJUSTMENTS AND REORGANIZATIONS

*Doctors*

Criteria for Judging When New Accounting Entities are Created in Voluntary Corporate Reorganizations, William H. Culp, *University of Michigan*, (In Progress)

Criteria Employed to Determine Value of Selected Private Transit Companies Transferred to Public Ownership—With Possible Application to the Pittsburgh Railways Company, Frank Wright, *University of Pittsburgh*, (In Progress)

## IX. EDUCATION

### *Masters*

A Study of the Subject Matter for Elementary Accounting at the Collegiate Level, Evelyn T. Borgersen, *University of Washington*, 1958

A Guide to the Classification of Receipts and Disbursements for the Division Superintendent in the Public Schools of the State of Virginia, William D. Durham, Jr., *Virginia Polytechnic Institute*, 1958

A Study of the Presentation of Accounting Material at the Collegiate Level, Harry J. Kies, *University of Illinois*, 1958

Effective Presentation of Accounting to Non-Accounting Major Business Students, Louis E. Mullen, *University of Illinois*, 1958

Development of Materials for Use with the Overhead Projector in Teaching Elementary Accounting, J. Morgan White, *Brigham Young University*, 1958

Correlation of High School Background with Elementary Accounting Grades, Dolores A. Wickline, *Ohio University*, 1958

### *Faculty Research*

Auditing Internship for College Seniors, Fred J. Mueller, *University of Washington*

## X. MISCELLANEOUS

### *Doctors*

Factors Affecting the Selection of Countries for American Industrial Plant Locations in Central Europe, William R. Hoskins, *Indiana University*, (In Progress)

Investment Opportunities in the Early 1800's, R. Bruce McCosh, *Indiana University*, 1958

### *Masters*

A Study of Basic Problems in Developing Accounting Principles, Ted M. Rabun, *University of Illinois*, 1958

### *Faculty Research*

Prologomena zu Einer Universalen Rechnungwissenschaft, Richard V. Mattessich, *University of California (Berkeley)*, 1958

# ASSOCIATE MEMBERSHIPS

FOR THE INFORMATION of teaching members of the American Accounting Association, the numbers of new Associate Memberships are reported by schools. These include all applications processed by our Secretary's Office during the period of August 25, 1958 through July 15, 1959 from schools with ten memberships or more.

*Over 100 Members*

John Carroll University (349)
LaSalle Extension University (240)
University of California at Los Angeles (166)
University of Miami (161)
Indiana University (148)
New York University (119)
Temple University (109)
Bentley School of Finance (102)

*90–100 Members*

University of Illinois

*80–90 Members*

University of Iowa

*70–80 Members*

City College of New York
University of North Carolina

*60–70 Members*

Drake University
Fairleigh Dickinson University
Pace College

*50–60 Members*

Mississippi State University
University of Arkansas
University of Texas

*40–50 Members*

Bryant College
DePaul University
Miami University
Michigan State University
Pennsylvania Military College
San Jose State College
University of Puerto Rico

*30–40 Members*

Franklin & Marshall College
Husson College
Mississippi Southern College
Ohio State University
Robert Morris
Rutgers University
Seton Hall University
University of Buffalo
University of Cincinnati
University of Denver
University of Detroit
University of Minnesota
University of Missouri
University of North Dakota
University of Pittsburgh
University of Utah
University of Washington
University of Wisconsin
Western Reserve University

*20–30 Members*

C. W. Post College
Eastern Kentucky State College
Fort Hays Kansas State College
Howard University
International Accounting Society
Kansas State Teachers College
Los Angeles State College
Louisiana State College
McGill University
North Texas State College
Quincy College
San Diego State College
University of Alabama
University of California
University of Massachusetts
University of Michigan
University of Scranton
University of South Dakota
Villanova University
Waseda University
Wayne University

*10–20 Members*

Alfred University
Arizona State College
Ashland College
Ball State Teachers College
Bellarmine College
Bradley University
Brooklyn College
Canisius College
Catawba College
Chuo University
Clark University
Columbia University
Coopers Institute of Business
Earlham University
East Washington College of Education
Everett Junior College
Fenn College
Florence State Teachers College
Florida State University
George Washington University

Golden Gate College
Harpur College
Howard F. Green School of Accounting
Indiana State Teachers College
Iona College
Kansas City Junior College
LaSalle College
Long Island University
Louisiana State University in New Orleans
Loyola University
Millikin University
Mississippi Vocational College
Morris Harvey College
Northeastern University
Northwestern University
Pennsylvania State University
Portsmouth Interstate Business College
Providence College
Rider College
Roosevelt University
Sacramento State College
St. John's University
St. Joseph's College
St. Mary's University
St. Norbert College
Southern Methodist University
Southwest Missouri State College
Stevens' Henager College
Susquehanna University
Syracuse University
Tennessee Wesleyan College
Texas A. and M.
Texas Technological College
University of Baltimore
University of Chicago
University of Colorado
University of Florida
University of Kansas City
University of Maryland
University of New Mexico
University of Oklahoma
University of Omaha
University of Pennsylvania
University of San Francisco
University of Southern California
Walton School of Commerce
West Liberty College
Wichita University
Woodbury College
Xavier University

# THE TEACHERS' CLINIC

Glen G. Yankee

Editor's Note: This section of The Accounting Review is devoted to matters of particular interest to accounting instructors. The contribution of articles bearing on the nature and purpose of various types of accounting education, or dealing with techniques of accounting instruction, is invited. Address all correspondence to Glen G. Yankee, School of Business Administration, Miami University, Oxford, Ohio.

## ACCOUNTING ACHIEVEMENT IN CONVENTIONAL AND TELEVISION CLASSES AT THE UNIVERSITY OF MIAMI*

Ramon Jose de Reyna, II
*Los Angeles State College*

The colleges and universities of the United States are confronted today with unprecedented expansion problems. Television instruction may provide answers to some of these problems. To meet the demands placed upon them for instructors and for physical facilities to accomodate expanding student enrollments, educators throughout the country are experimenting with mass communication techniques such as radio, tape recordings, and television. The concentration of interest, however, has been on instructional television as an appropriate means to solve problems of presenting courses to increasingly large numbers of students with available faculties.

To determine the potentialities, advantages, and limitations of instructional television, colleges and universities are conducting experimental courses in television in many areas of higher education. The Pennsylvania State University and Miami University (Ohio) have made notable studies in the use of television instruction for college courses. In the academic year 1957–1958, the Accounting Department of the University of Miami at Coral Gables, Florida, began to televise some of its courses to non-accounting majors. In the fall semester of that year, the television method was used in teaching four sections of first semester freshman accounting. In the spring semester, several sections of both first and second semester accounting were televised. This study was conducted to determine the effectiveness of this new method of instruction at the University of Miami.

The purpose of this study was to compare the achievement of students studying accounting by the television method at the University of Miami with the achievement of students studying by the conventional method of instruction. It was also the purpose of the study to ascertain the opinions of the faculty and students concerning the program on instructional television for freshman accounting courses at the University of Miami.

### PROCEDURE

A proven educational experimental procedure was followed in comparing achievement results of the freshman students in second semester accounting television sections and conventional sections. Four sections, two for conventional instruction and two for television instruction, were selected and equated for this study. The students in these equated sections were tested twice during the semester to deter-

* This paper is based on a Master's thesis, University of Miami, 1959.

mine whether any differences between the achievement of students in television sections and the students in conventional sections could be attributed to the teaching methods used.

Two members of the staff were appointed by the Chairman of the Accounting Department to instruct the students in the four sections. Both instructors had considerable experience in classroom instruction and were of professorial rank. Each instructor was assigned to teach the students in second semester freshman accounting. The students in the two conventional sections were in the same room as their instructor. In the two television sections the students and their instructors were in different rooms, and closed-circuit television was used to teach the students material comparable to that which was presented in conventional sections. An assistant was present in each television section classroom. The duties of the assistants were to record attendance, administer examinations, answer questions in the classrooms, and to assist the students following the televised lectures in solving the assigned homework problems.

To obtain data for comparing achievement of the students in the conventional and television sections, all four sections were given an Interim Examination and a Final Examination. The Interim Examination was given after six weeks' instruction and was based on subject matter covered during this period. The examination date was announced to the students one week in advance. After thirteen weeks of class the Final Examination was given to the students in the four sections. On the Final Examination, the students were not tested on subject matter covered in the first six weeks of class, since that material had been covered on the Interim Examination. The Final Examination date was announced to the students one week in advance. Both of these examinations were of the multiple-choice type.

Results of the Interim Examination and of the Final Examination were analyzed on a statistical basis. On each examination, the measures of central tendency were higher for the conventional sections than the same measures determined for the scores of students in the television sections. Correspondingly, the measures of dispersion tended to be somewhat lower for the conventional sections than similar measures for the television sections. However, these observed differences were not statistically significant, as determined by the levels of confidence.

Tabulated statistical comparisons of this study are included as an appendix to this paper.

## OPINIONS OF THE FACULTY AND OF THE STUDENTS

Written questionnaires were completed at the end of the semester by the two instructors and by eighty-six students in five television sections. Two of these five sections were the experimental sections used for this study. The opinions of the students in the other three sections were included to get a complete perspective of the method of television instruction in use at the University of Miami. Table I summarizes the points of agreement and disagreement indicated by the two instructors and by the eighty-six students on the questionnaires.

Both the instructors and the students felt that students learned much less in television classes than was learned in conventional classes. The reasons advanced for this opinion were that students could not ask questions of their instructors, there were space limitations on the use of the blackboard as a teaching aid, and figures appeared illegible on the screens of the television receivers. One of the in-

TABLE I. POINTS OF AGREEMENT AND DISAGREEMENT BETWEEN THE TWO FACULTY MEMBERS AND AMONG THE EIGHTY-SIX STUDENTS AS INDICATED ON THE QUESTIONNAIRES

| | *Faculty* | | *Students* | |
|---|---|---|---|---|
| | *Agreement* | *Disagreement* | *Agreement (per cent of total)* | *Disagreement (per cent of total)* |
| From a qualitative standpoint, students learned much less in the television course | X | | 80 | 20 |
| The television course was more interesting than conventional courses | | X | 21 | 79 |
| Students missed "a great deal" because they were unable to participate in class discussions and ask questions | X | | 48 | 52 |
| Students who viewed television had fewer distractions than students in conventional classes | | X | 23 | 77 |
| Instructors did not know their television students as well as they knew their conventional section students | X | | 74 | 26 |

structors agreed with the majority opinion of the television students that television instruction is less interesting than conventional instruction. The other instructor felt that television instruction was more interesting because of the variety of television presentation.

The instructors and the students were generally in accord in their opinions on the advantages and disadvantages of televised instruction. Typical examples of the principal advantages of televised instruction were: better use of experienced instructors, better planned instruction, ability to reach a large audience, and less interruption of the lecturer. Economy to the university and the gaining of experience by the graduate assistants were also reported as advantages by members of both groups. The disadvantages of instructional television reported by the students were: boredom, lack of student participation in discussions during a class, lack of personal contact between the students and their lecturer, and distractions caused by technical difficulties.

The instructors and the students also agreed that students missed "a great deal" because they could not participate in class discussions or direct questions to the lecturer. Typical comments from students who missed class discussions and the opportunity to ask questions of their lecturer were:

"Some of the questions I would have asked were forgotten."

"Because many things were not clear to me, I lost part of the lecture trying to figure out the parts that I did not know."

"It made doing homework problems harder."

"At a particular part of the lecture you are not able to ask a specific question while it is fresh in your mind."

"The personal touch, which I value very highly, is missing between the instructor and the class."

The students who reported that they "did not miss at all" participating in class discussions felt that the subject matter was covered efficiently and that most of the questions were answered by the lecturer.

The students and one of the instructors disagreed with the theory that students in television sections received more effective instruction than students in conventional sections because the television students had fewer distractions and could concentrate on what was taught. The other instructor agreed with qualification. Students and instructors also agreed that they

did not know each other as well in the television course as they would have done in a conventional course. The students who felt that they knew their television instructors as well or better than conventional instructors reported that they had consulted their television instructors after class or during the instructors' office hours.

One instructor stated that he believed that the experiment which provided the basis for this study should be continued. He felt that at some time in the future a large influx of students with a limited number of available qualified instructors might require a choice of instructional television, large lecture classes, or small classes taught by graduate assistants.

In summary, both the students and their instructors generally agreed that students learned less in television classes than students learned in conventional classes and that the televised course was less interesting than the conventionally taught course. In considering the opinions of the students in television classes, however, it must be kept in mind that students who do not do well in a course might tend to rationalize that this poor work was caused by factors other than their lack of study. The students who did poorly in the television courses may have used the television technique to rationalize their poor performance.

## COMPARISON OF COSTS

A study was also made of the comparative costs of the two methods of instruction used for teaching accounting. These costs pertained to the spring semester of 1958.

The per student cost of the conventional instruction was lower for the course than the per student cost for television instruction. It must be pointed out, however, that television instruction is basically a mass communication technique. Large groups of students are a requirement for advantageous use of this media. At the University of Miami in the spring semester of 1958, three or four sections were taught over television at the same hour. Eight or ten sections could have been taught simultaneously, thereby lowering the per student cost for television considerably below that experienced for conventional classes. The cost per student would have been lower because the professorial cost and other fixed costs would have been apportioned over a larger number of television students. Of course, variable costs (assistant instructors and operators) would have increased proportionately.

## CONCLUSIONS

The following conclusions can be drawn from this study of accounting achievement:

1. Although there were actual differences on the Interim Examination and on the Final Examination between the scores of students in television classes and the scores of students in conventional classes, it cannot be concluded that television students did not acquire as much understanding of the basic subject matter as did the students in conventional sections. This is indicated by a level of confidence (t) of approximately .6 on each examination. The differences that appeared on these examinations could have occurred by chance in approximately six out of ten cases for groups of the size used in this study. The actual differences that were found, therefore, were not statistically significant.

2. The selection of students for television accounting classes or for conventional accounting classes on the basis of their ability as determined by the factors used to equate the groups cannot be justified. This was indicated by the high degree of positive correlation on each examination between the scores of the students in the television sections and the

scores of students in the conventional classes.

3. Students and instructors in the television sections estimated that the amount students learned in the course was much less than that indicated by their grades. Students who did poorly in the course may have used as a rationalization the television technique, rather than their lack of study or some other factor.

4. The majority of the students was disenchanted with television as a method of teaching accounting. They also missed the customary personal contact with the instructors, as well as the opportunity for class discussions.

5. The quality of instructional television will improve with time as experience is gained by instructors and television personnel. Acceptance of instructional television by administration, faculty, students, and the general public will probably increase as experience is gained.

6. The success of instructional television, however, will require carefully planned lectures, demonstrations, and the use of good audio-visual aids.

Since instructional television is a new area in education, and in accounting in particular, there is a need for extensive research, experimentation, and study. Experiments should be conducted using larger samples for television and conventional classes. The value of television instruction can not be determined without further experimentation and research, but the specter of larger enrollments seems to make such studies—in other areas of business as well as accounting—well worth while.

## APPENDIX

TABLE II. DATA ON MEASURES OF CENTRAL TENDENCY INTERIM EXAMINATION AND FINAL EXAMINATION

| | *Interim Examination* | | *Final Examination* | |
|---|---|---|---|---|
| | *Television Sections* | *Conventional Sections* | *Television Sections* | *Conventional Sections* |
| Mean | 54.92 | 64.62 | 45.38 | 50.19 |
| Median | 50.00 | 66.00 | 45.00 | 50.00 |
| First Quartile ($Q_1$) | 44.00 | 48.00 | 35.00 | 40.00 |
| Third Quartile ($Q_3$) | 68.00 | 76.00 | 55.00 | 60.00 |

TABLE III. DATA ON MEASURES OF DISPERSION INTERIM EXAMINATION AND FINAL EXAMINATION

| | *Interim Examination* | | *Final Examination* | |
|---|---|---|---|---|
| | *Television Sections* | *Conventional Sections* | *Television Sections* | *Conventional Sections* |
| Range | 16–84 | 36–100 | 20–75 | 30–75 |
| Standard Deviation ($\sigma$) | 12.73 | 13.48 | 8.84 | 6.49 |

TABLE IV. DATA ON RELIABILITY AND SIGNIFICANCE OF STATISTICAL MEASURES INTERIM EXAMINATION AND FINAL EXAMINATION

| | *Examination* | |
|---|---|---|
| | *Interim* | *Final* |
| Standard error of the difference between the two means ($\sigma_{\bar{x}_1-\bar{x}_2}$) | 18.54 | 10.97 |
| $t$ | .52 | .44 |
| Level of confidence for $t$ | .60 | .57 |

TABLE V. DATA ON CORRELATION OF SCORES INTERIM EXAMINATION AND FINAL EXAMINATION

| | *Examination* | |
|---|---|---|
| | *Interim* | *Final* |
| Coefficient of correlation ($r$) | .9633 | .9468 |
| Standard error of the coefficient ($\sigma_r$) | ±.0144 | ±.0207 |

# THE USE OF VISUAL AIDS IN THE TEACHING OF ACCOUNTING

JOHN A. FROEBE
*Fenn College*

In an article by Professor J. W. Ruswinckel, "A Report on the Use of Visual Aids in the Teaching of Accounting" in the July 1952 issue of THE ACCOUNTING REVIEW, various ways of presenting new material and solutions to assigned problems with slides and transparencies were discussed. Professor Ruswinckel explained that there were many advantages in using visual aids in the accounting classroom and there were also some important disadvantages, namely, the time required for preparing the material for photographing and binding the films in glass protectors after the frames were processed.

At that time (1952), the projectors available were comparatively large and heavy and it was almost mandatory to use a thousand-watt projector bulb unless the class was scheduled in a special projection room. Black and white "Kodak Microfile" film was found to be the most suitable for making slides, and it was a comparatively slow film and required considerable processing.

In the race for competitive position in the photographic industry in the last seven years, the manufacturers of cameras, projectors, screens, and films have made tremendous improvements in their products. The present-day projectors are very compact, and the lamps, lenses, condensers, and automatic changers now make slide projecting effortless. Now, the instructor can load a projector with a tray of slides and operate it from the front of the classroom by remote control. A slide can be left in a projector with a motor-driven fan for an indefinite time without overheating. The new color films are so fast that it would be only a small exaggeration to say that an exposure of a yellow shuttle car could be made in a coal mine at midnight.

For the past two or three years at Fenn College, fast color film has been used for copying solutions of long problems involving consolidated statements. The solutions are projected on a screen in sections and the instructor and students work forward until the complete solution of a problem has been covered. Frequently, it is necessary to photograph four or five frames in order to cover completely all phases of one solution. By using a filter over the camera lens when copying black and white material on color film, the processed film will show a slightly bluish color on the screen but the projected material can be read without any difficulty. Ordinarily, an exposed roll of color film will be processed, mounted in cardboard frames ready for use and returned by your dealer within three days, or one week at the most.

Many accounting departments offer courses in the fundamentals of elementary accounting or cost accounting for engineers and other non-accounting majors. Frequently, most of the members of these classes are advanced students and the pace of the work can be accelerated in comparison with the speed at which the material can be presented to freshmen. The balance sheets, income and other statements of well-known corporations can be used as source material for making slides for illustrating and explaining accounting concepts and, thereby, maintaining a fast tempo in these classes.

A few years ago the American Iron and Steel Institute published reprints of manufacturing flow charts from *Steelways Magazine* under the title "Steelmaking

Illustrated." In this publication are drawings in color of such operations as mining limestone, washing and grading coal, manufacturing taconite, making iron in a blast furnace, making steel in an open hearth, rolling plates and other operations basic in the steel industry.

We have copied a number of these colored drawings on color film and use them in the course in Cost Accounting. There are no better media for explaining departmentalization, for illustrating the concept of a cost center, for showing how burden would be applied to specific operations, for tracing the flow of the raw material from the initial process to finished goods and for illustrating other cost-finding applications. Many college students have never visited a steel mill, or any other large manufacturing concern, and have difficulty visualizing such a complicated stream of sequential processes. By using color slides, it is possible to eliminate hours of time that otherwise would be consumed in "explaining."

According to an old Chinese proverb, "One picture is worth a thousand words." At the time this observation was made, the Chinese knew nothing of the appeal of a brilliantly colored Anscochrome or Kodachrome reproduction on a good projection screen. One has only to use his imagination to appreciate the almost limitless amount of material available for classroom use.

Undoubtedly, many college professors are good photographers and possess cameras that can be used for copying from books, annual reports, brochures, magazines, and other source material. The single-lens reflex is best suited for this work because the focusing is done on the ground-glass screen at the top of the camera. However, it may be necessary to purchase a lens-tube for photographing close work. For other cameras, it may be necessary to buy a supplementary "close-up" lens. Any good photographic dealer will be glad to assist in this matter.

If an instructor does not care to do his own photographic work, a photo dealer will furnish the names of advanced amateurs in the community who will copy the material for a nominal sum. As a rule, the large universities have very complete photographic or audio-visual aid departments where almost any kind of photographic work can be done. As stated previously, the processing of color film should be done by a professional laboratory specializing in color work. The total cost of the film and processing should not exceed twenty cents per frame. By using ordinary care in handling and storing the finished films, they can be used indefinitely.

In the not too distant future there will be a frightening increase in college enrollment without a commensurate increase in faculty. Methods for teaching large classes will have to be adopted and visual aids in one form or another may well be the answer.

# ADDING FLEXIBILITY TO THE ACCOUNTING CURRICULUM: AN ACCELERATED PROGRAM

VERNON K. ZIMMERMAN
*University of Illinois*

Contemporary accounting education in American universities and colleges has developed a generally satisfactory curriculum of study. The recent graduates of accounting schools give continuous testimony of the general adequacy of their collegiate preparation by their successful performances in all the various avenues of activity within the accounting profession. For such results, much credit must be given to the degree of successful standardization of collegiate accounting curricula throughout the country.

However, in any standardized educational curriculum, the student with a special educational need cannot be served adequately by a curriculum designed for and tested by the normal or typical student. Our accounting curricula were initially established and are ever being revised to fit the educational needs of the majority of students, *i.e.*, the normal accounting major. But what of the student who has an educational need that does not allow his merger into the existing standardized or normal curriculum?

In order to find an answer, logic directs us to an analysis of the causes of this educational problem. What unique, academic circumstances create individual scholastic situations that cannot properly be fitted into the existing accounting curriculum? The two primary causes seem to be: (1) A physical change of educational location before completion of a full undergraduate program. Such changes are frequent in contemporary education and are both mandatory and expected in some cases, such as students of our junior colleges. (2) A personal change of his major field of study. It might be possible to ignore the special needs of the student making such a change with the observation that the student himself is responsible for the transfer and therefore he must himself suffer any educational lags or discomforts collateral to such action. But mere inattention does not solve a problem that certainly is increasing in quantitative terms as our total college population continues to rise. Moreover, many commerce educators are already receiving and anticipate an increasing number of entrance requests from those students who, influenced perhaps by the "sputnik"-induced glamour of certain curricula, selected a personally unsuitable major.

The accounting departments of today's colleges of commerce are thus faced with the challenge of adapting their standard curricula to meet the specific educational needs of a special type of student, a student who decides that he wishes to enroll in a college of commerce with the specific goal of becoming an accounting major after having achieved the completion of two, three, or four years of college work and having benefitted from the collateral self-development and personal maturity. Is there any reason to adapt a successful four-year curriculum for the particular benefit of a latecomer? For the academic "washout" or the chronic transfer case, the answer should be no. There should be little desire to accommodate the demonstrated scholastic failure. But should the scholar of demonstrated academic talent be penalized because of either a mandatory or voluntary transfer? To the extent that academic resources permit, it seems that such qualified students possessing particular needs should be afforded an expedi-

tious sequence of courses which would still permit him to complete collegiate training in accounting within a reasonable period of time.

In relating the needs of the new transfer accounting major with advanced undergraduate standing or with an undergraduate degree in another field, two considerations demand particular attention: (1) Academic time lag caused by a rigid adherence to prescribed sequential courses. Such rigidity makes it patently impossible for a transfer student to complete a three- or four-year course in a lesser period of time. Generally, it is possible to dismiss the scheduling problems for all courses except those in the major field where there ordinarily exists a normal sequential arrangement of required courses. (2) Educational adequacy of the initial courses in his new major area of study for the transfer student. It is not reasonable to expect courses designed for freshmen and sophomores to offer sufficient educational challenge for an undergraduate of advanced standing and of demonstrated academic ability.

With particular appreciation of the special problems involved for the transfer student of advanced standing, the Department of Accountancy of the University of Illinois had designed an experimental curriculum specifically tailored for the growing number of such transfer students. Three new courses were established to aid those transfer students who desire to major in accountancy. These courses are combinations of various sequential courses already existing in the standard four-year curriculum and allow the acceleration of sequential courses desired by the transfer student.

Accountancy 208. *Elementary and Intermediate Accounting*. Fundamentals of proprietorship, partnership and corporation accounting; consideration at the intermediate level of modern basic concepts of accounting theory; interpretation of financial statements and analysis of the principal accounts represented therein. Prerequisites: junior standing, a general university average of 3.75 (A=5.00). Five (5) semester hours, first semester only.

Accountancy 216. *Elementary and Advanced Cost Accounting*. Accounting for production management; principles and methods of accounting for managerial control of costs of production, including the use of standard costs. Prerequisites: junior standing, elementary accounting, a general university average of 3.75. Five (5) semester hours, second semester only.

Accountancy 271. *Advanced Accounting and Auditing*. Accounting for partnerships, consolidated balance sheets, actuarial computations and applications, insurance, specialized financial statements, and auditing techniques and procedures and their applications, including an introduction to the work of internal and independent auditors. Prerequisites: Intermediate accounting, senior standing, a general university average of 3.75, and an average of 3.00 in preceding courses in accounting. Five (5) semester hours, second semester only.

## *Conclusions*

After three years of testing, the accelerated program in accountancy at the University of Illinois designed for the qualified transfer student has made evident several advantages of such a program. Better than average scholastic abilities combined with small class enrollments and a resulting informal classroom atmosphere have made these courses most rewarding—both for the students and for the teachers. Achievements by the members of the initial classes, both in the area of CPA examination proficiency and in the industrial accounting field, give tangible tokens affording encouragement as to the adequacy and success of such an accelerated program. Limiting factors to the widespread adoption of such a program are the relatively small number of qualified potential enrollees, the higher unit cost of instruction, and certain administrative scheduling problems.

One of the general criticisms directed against general university education has

been the failure of the large university to meet the specialized educational needs of individual students and of small groups of students. The new accelerated program in accountancy at the University of Illinois is an attempt to meet the particular needs of a special group of university students.

## ACCOUNT CLASSIFICATION AND PRINCIPLE CODIFICATION

Norman D. Hedish
*University of Illinois at Chicago*

In the January, 1959 issue of The Accounting Review, Professor Lipkin proposed a dynamic equation to reflect the organization of accounting elements. To fully obtain the use of this equation dynamic teaching methods are called for. Traditional approaches to the introduction of accounting principles have centered upon the, "Balance Sheet," (analytical), or the "Journal," (mechanical). A third and rather infrequently used approach to fundamental accounting principles is the chart of accounts approach.

The "Balance Sheet" approach centers upon the fundamental or basic equation which organizes the elements of a business entity into three groups—Assets, Liabilities and Proprietorship. Therefore, all accounts are classified as being a member of a class and accounting principles are proposed and codified to reflect the changes which take place within the class. This reflection of change is, of course, the Balance Sheet, while the cause of change is the Statement of Profit and Loss.

The "Journal" approach centers around the concept that the accounting for business transactions is cyclic in nature. Thus, the student of accounting is led through the steps of the cycle. This mechanical approach is sufficient if one desires to teach bookkeeping, but it does not suffice if one desires to teach *accounting!* The teaching of accounting requires *thinking* upon the part of the instructor as well as the student. The teaching of the accounting cycle does not prepare the student to analyze a business transaction in terms of the elements of the firm that are affected. Yet, it is paradoxical that unless and until these elements are identified, no journal entry can be made!

How does one determine the "elements" of a Firm? It is unfortunate in the opinion of the writer that there is not greater unanimity as regards the definition of the accounting elements of a firm than exists in current literature. For the proponents of the "Balance Sheet" equation the following quotations from various accounting texts designed for the elementary level student are of interest:

"Regardless of the number of accounts kept, they can be segregated into three general classes, and they should be grouped according to these classes in the ledger. The usual custom is to arrange the asset accounts first, the liability accounts second, and the proprietorship accounts, including income and expense accounts last."[1]

"Although accounts are said to be classified when they are designated as assets, liabilities, (including proprietorship) (sic) expenses, incomes or mixed accounts, there is a slightly different but very popular meaning attached to the phrase 'classification of accounts.' This expression is used to mean a list in detail of all the accounts used in a business, such accounts being grouped under general headings—assets, liabilities, expenses and income . . . "[2]

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[1] J. F. Sherwood, A. B. Carson, and Clem Boling, *College Accounting* Sixth Edition, South-Western Publishing Company, Chicago, 1957 pp. 30–31.

[2] C. A. Moyer and Hiram T. Scovill, *Fundamental Principles of Accounting*, John Wiley and Sons, Inc., New York, 1954, pp. 105–106.

"To facilitate statement preparation accounts are placed in the ledger according to their classification as assets, liabilities, owners equity, revenue and expense . . . ."[3]

"Insofar as possible, the order of the accounts in the ledger should agree with the order of items on the balance sheet and the income statement."[4]

These quotations indicate to some extent the lack of agreement that exists among accountants and accounting educators when they try to define the elements of a firm. Proprietorship is defined in at least three distinct ways—(1) inclusive of income and expense, (2) as a liability and (3) as owners equity.

If the basic equation $A-L=P$ or or $A=L+P+Pc+Pi$ (Pc is Proprietorship created, i.e Revenue minus Expenses, and Pi is Proprietorship invested during the period under review) is not clearly definable then some other source must provide information relative to the elements of a firm." The chart of accounts of any firm provides the information desired. The chart of accounts for any firm indicates the nature of its assets, the liability elements, the equity structure, the sources of revenue, the expenses (Cost of Sales, Cost of Manufacturing inclusive of Selling and Administrative Expenses) and the summary accounts.

As already indicated, there can be no journalization of transactions until such time as the elements involved are identified. Once this has been done the accounting student can then frame his entry in terms of the general accounting principles involved with specific reference to the accounts of the firm involved. This is in line with Professor Dunn's article in which he discussed a method of assisting students in transaction analysis.[5] While it is true that the rules of debit and credit as cited in Professor Dunn's article are important, one can not ignore the function of the account itself:

"The account is the focal point of the statistical method used in accounting. The objective of bookkeeping is to get the changes resulting from a financial transaction or event recorded in the proper account."[6]

Thus, the accounting student must learn analysis of transactions from the point of view of the firm as reflected in its chart of accounts and from the point of view of principles codified by the American Institute of Accountants and the American Accounting Association. This point of view is expressed by Easton and Newton[7] in their text when they state:

"The number and titles of the accounts used depend upon the type of business and the amount of detailed information desired. If few 'breakdowns' are desired, there can be relatively few accounts. When more detailed information is wanted, more accounts are necessary to provide for the accumulation of additional data. The titles of accounts are primarily determined by the nature of the costs and debts incurred, the kind of income, *etc.*, and consequently, there can be no specific formula for the selection of account titles for a particular business. Judgment must be employed in the selection of account titles and, when appropriate, the most commonly accepted titles should be used in order to make statements comparable."

The student of accounting even at the most elementary level must be led initially through concept formation and application of the concept formed. However, if the student is to progress he must develop analytical ability. To develop this ability the student must think of transactions not

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[3] George A. MacFarland, Robert D. Ayars, and Williard E. Stone, *Accounting Fundamentals*, Third Edition, McGraw-Hill Book Company Incorporated, New York, 1957, pp. 74.

[4] Noble, Howard S. and C. Rollin Niswonger, *Accounting Principles*, Seventh Edition, South-Western Publishing Company, Chicago, 1957, pp. 58.

[5] Clarence L. Dunn, "Helping Accounting Students to Learn How to Analyze a Business Transaction," *The Accounting Review*, Vol. XXXI, July, 1956, pp. 501–503.

[6] C. Aubrey Smith and Jim G. Ashburne, *Financial and Administrative Accounting*, McGraw-Hill, New York, 1955, pp. 22.

[7] Edison E. Easton and Byron L. Newton, *Accounting and the Analysis of Financial Data*, McGraw-Hill Book Company, Incorporated, New York, 1958, p. 27.

only in terms of "What do I debit and what do I credit?", but he must further ask himself, "does my entry fully reflect this transaction in terms of the general accounting principles involved and the specific accounts affected for the firm involved?" If the student can answer affirmatively to both questions then he has removed himself from the pit-fall of solving accounting problems solely by memorization of procedures.

The chart of accounts approach to accounting fundamentals has obvious advantages to the student. The student "sees" the flow of data, the location of cost and expense centers, revenue sources, and entity structure. From this the student can proceed to analyze transactions in terms of what accounts are affected, the nature of the effect and to record them under generally accepted accounting principles.

# PROFESSIONAL EXAMINATIONS

## ACCOUNTING PRACTICE

HENRY T. CHAMBERLAIN AND JOHN H. CHAMBERLAIN

THE following problems were prepared by the Board of Examiners of the American Institute of Certified Public Accountants and were presented as the second half of the C.P.A. examination in accounting practice on May 14, 1959.

The candidates were required to solve problems 1 and 2 and three of the remaining four problems.

The suggested time allowances are as follows:

| | |
|---|---|
| Problem 1 | 20 to 25 minutes |
| Problem 2 | 60 to 80 minutes |
| Problems 3, 4, 5 and 6 (any three) | 120 to 165 minutes |

*Number 1*

The Y & P Music Company, a Washington corporation, operates two retail music stores, one located in Seattle, Washington and the other in Tacoma, Washington. Each store maintains a separate set of accounting records; intercompany transfers or transactions are recorded in an intercompany account carried on each set of records.

Purchases of major items of inventory, such as organs and pianos, are made under a financial arrangement with a local bank advancing 90% of the invoice price and the company paying 10%. If the bank note remains unpaid at the end of 90 days the company is required to pay an additional 10% of the invoice price as a payment on the note.

In August 1956, the Seattle store purchased an organ for which the seller's draft in the amount of $6,300 was sent to The First National Bank of Seattle, which refused to finance the purchase of the instrument. Arrangements were made through the Tacoma store with The Citizens Bank of Tacoma to provide the financing. The bank lent Tacoma 90% of the invoice price, or $5,670 which Tacoma deposited and credited to notes payable. The Seattle store drew a check payable to the Tacoma store for $630 or 10% of the invoice price, charging Tacoma intercompany account on its books. Tacoma took up the deposit crediting the intercompany account carried with Seattle.

Tacoma, using the 10% received from Seattle and the 90% advanced by the bank, drew a check payable to The First National Bank of Seattle in full payment of the draft, charging notes payable.

In November, Seattle made the second payment of $630 directly to the Tacoma bank, charging Tacoma intercompany account, and also notified the Tacoma bookkeeper that the payment had been made. Tacoma took up the transaction charging organ purchases and crediting Seattle. In December Seattle paid off the balance on the note charging organ purchases.

***Required:***

Adjusting entries to be recorded on each set of books correcting the account balances.

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NOTE: A helpful seventy-six page booklet entitled "Information for CPA Candidates" is available for 30 cents from the American Institute of Certified Public Accountants, 270 Madison Avenue, New York 16, New York.

*Number 2*

The Claxton Machine Co., Inc. maintains and supplies the raw materials for machines which it rents out on one-year contracts. The charge for service and supplies is billed monthly and is based on usage, $8 for each 100 units as measured by meters with a minimum monthly charge of $160 per machine.

The company, whose fiscal year ends on June 30, applied to a bank in May, 1959 for a loan of $12,000 with 6% interest payable quarterly. The company expects to buy 10 more machines with the proceeds. The controller believes that, because of the increasing popularity of its machines and the additional revenue from the new machines, one-half the loan could be repaid out of profits in six months. The bank is skeptical of the conclusion reached from the data submitted. There is doubt that the company will have sufficient cash to pay its bills promptly. The loan officer of the bank proposes that the company borrow $6,000 from Mr. Claxton, the president of the company, subordinating that loan to the bank loan. The bank loan will be made on July 1 if it is awarded.

While Mr. Claxton could obtain the $6,000, he does not believe it is needed. He engages you to prepare a statment from his data. The statement is to be based on the assumption that the loan is granted, the machines purchased and paid for on July 1, and that they are placed in operation on August 1. The statement should show the amount of working capital, if any, in addition to the $12,000 loan, which will be required during each of the next six months.

The company's estimated balance sheet at June 30, 1959 is as follows:

*ASSETS*

| | | |
|---|---|---|
| Cash | | $ 511 |
| Accounts receivable | $ 4,800 | |
| Less allowances for losses | 240 | 4,560 |
| Inventory of raw material, 980 gallons | | 980 |
| 20 machines at cost | 22,000 | |
| Less depreciation accumulated at 10% per year on a monthly basis | 6,000 | 16,000 |
| | | $22,051 |

*LIABILITIES*

| | |
|---|---|
| Accounts payable for raw material purchases | $ 1,930 |
| Federal income tax—current | 1,200 |
| Other current liabilities | 400 |
| Common stock | 10,000 |
| Retained earnings | 8,521 |
| | $22,051 |

The following explanations and data are to be considered:

(1) The machines are delivered dismantled. The company pays a machine shop $60 each to assemble them.

(2) Supplementary fixtures must be provided at each installation. These cost $45 each. The fixtures will last 5 years.

(3) Since it is more convenient for the customers to have the machines installed during non-business hours, employees may install them during overtime hours, which will increase the payroll an estimated $300.

(4) Meter readings are estimated as follows:

| | *1,500 Units* | *2,000 Units* | *2,500 Units* | *3,000 Units* | *3,500 Units* | *Total No. of Machines* |
|---|---|---|---|---|---|---|
| July | 4 | 2 | 6 | 8 | | 20 |
| Aug. | 2 | 6 | 10 | 12 | | 30 |
| Sept. | | 2 | 8 | 10 | 10 | 30 |
| Oct. | | | 4 | 10 | 16 | 30 |
| Nov. | | | 4 | 10 | 16 | 30 |
| Dec. | | | 4 | 10 | 16 | 30 |
| Jan. | | | | 10 | 20 | 30 |

(5) Billing is made at the end of each month, but it takes about a week to prepare the bills. Past experience has been that half the bills will be paid in the month following billing and the remainder that are collectible will be paid within the second month. It is estimated that losses on accounts receivable will amount to $50 per month. The June 30th balance of receivables includes $3,600 from June billings.

(6) Each 100 units requires 4 gallons of raw material. Savings on bulk purchases make it advisable to order only twice a month. They may rely on deliveries within half a month after the order is placed. This means the ending inventory each month must be enough to take care of half the total material requirements of the following month. Terms are $1 per gallon due N/10, E.O.M.

(7) A monthly average of other operating expenses was prepared from the cash disbursements book and submitted to you with notes on how they will be changed as follows:

| | |
|---|---|
| a. Salaries for machine service and maintenance | $800 |
| b. Maintenance supplies | 60 |
| c. General shop expense, sales promotion and general administration | 560 |

*Notes on Expected Changes*

Item a. Increase proportionate to increase in number of machines.
Item b. The expense for a new machine will be half the expense for an old machine.
Item c. Increase 10% for the six months.

(8) The bank requires that a minimum balance of $500 be maintained during the period of the loan.

(9) Your fee of $400 will be billed in July.

(10) To simplify computations for immaterial items, it is agreed that:

a. The employer's share of taxes based on payroll shall be computed at the rate of 4% and be paid currently with the payroll. Taxes to be withheld from employees are also to be paid currently with the payrolls.

b. There is no state tax based on income. The federal income taxes will be paid in equal installments in September and December

c. The amount of "other current liabilities" will remain constant at $400.

*Number 3*

Mrs. A and Mrs. B operate a skating rink as a partnership, sharing profits equally. They manage the business themselves, employing high school students for ticket takers and skate boys. Income is from admissions, skate rentals, and sales of soft drinks and candy, some of which is sold on credit.

The business records consist of a single entry cash book in which the details of all cash receipts and disbursements are entered. The business fiscal year ends on March 31.

The balance sheet of the partnership at March 31, 1958 was as follows:

*ASSETS*

| | |
|---|---|
| Cash on hand and in bank | $1,295 |
| Accounts receivable | 86 |
| Inventory (soft drinks and candy) | 119 |
| Prepaid insurance | 270 |
| Land | 500 |
| Building and building improvements | 6,628 |
| Equipment | 2,522 |
| Accumulated depreciation | (5,476) |
| | $5,944 |

*LIABILITIES AND PARTNERS' CAPITAL*

| | |
|---|---|
| Accounts payable | $ 882 |
| Taxes payable (including $38 withheld from employees) | 208 |
| Capital—Mrs. A | 2,427 |
| Capital—Mrs. B | 2,427 |
| | $5,944 |

The summary of the cash book for the year ended March 31, 1959 is as follows:

| | *Debit* | *Credit* |
|---|---|---|
| Admissions | | $4,817 |
| City admissions tax collected | | 231 |
| Skate rentals | | 1,899 |
| Sales—Soft drinks and candy | | 3,112 |
| State sales tax collected | | 56 |
| Wages paid | $ 696 | |
| Purchases—Soft drinks and candy | 2,434 | |
| Insurance expense | 750 | |
| Heat, fuel, and telephone | 579 | |
| Supplies | 309 | |
| Payroll taxes paid | 142 | |
| City admissions tax paid | 239 | |
| State sales and excise taxes paid | 179 | |
| Property taxes paid | 74 | |
| Equipment repairs | 260 | |
| Building repairs and improvements | 2,914 | |
| Miscellaneous expense | 199 | |
| Drawings—Mrs. A | 1,434 | |
| Drawings—Mrs. B | 840 | |

The following balances at March 31, 1959 were furnished by the client and are assumed to be correct:

| | |
|---|---|
| Cash on hand | $ 55 |
| Inventory | 108 |
| Accounts receivable | 15 |
| Amounts withheld from employees | 16 |

The details of accounts payable and taxes payable were as follows:

| | *March 31* | |
|---|---|---|
| | *1958* | *1959* |
| Accounts payable— | | |
| Merchandise | $160 | $ 71 |
| Heat, fuel, and telephone | 63 | 43 |
| Supplies | 32 | 14 |
| Building repairs and improvements | 540 | |
| Equipment repairs | 56 | 16 |
| Miscellaneous | 31 | 5 |
| | $882 | $149 |

| | March 31 | |
|---|---|---|
| Taxes payable— | *1958* | *1959* |
| Payroll taxes (including amounts withheld from employees) | $ 72 | $ 23 |
| City admissions tax | 39 | 31 |
| State sales and excise taxes | 23 | 16 |
| Property taxes | 74 | 147 |
| | $208 | $217 |

A review of cash transactions revealed the following:

1. In accordance with established policy of purchasing insurance covering one year periods, the following purchases were made during the year ended March 31, 1959:

| | | |
|---|---|---|
| Fire insurance, policy expires August 1, 1959 | | $144 |
| Liability insurance, policy expires October 15, 1959 | | 360 |
| Fire and liability insurance on partners' homes and automobiles, policies expire June 30, 1959— | | |
| Mrs. A | $110 | |
| Mrs. B | 136 | 246 |
| | | $750 |

2. Depreciation is computed on a straight-line basis over a 20-year period for building, 5 years for building improvements, and various rates for the equipment. One-half year's depreciation is taken in year of acquisition. Based on the asset balances at the beginning of the year, depreciation expense for the year would be $817. No fixed assets were disposed of during the year.

3. Building repairs and improvements include $1,898 in full payment of a city assessment for paving streets and alleys in the area, $560 for painting the exterior of the building, and the balance for normal building maintenance.

4. During the year $62 was withheld from employees' wages for social security and withholding taxes.

*Required:*

a. A worksheet showing:
   (1) adjustments to the beginning balance sheet and to the income and expense accounts,
   (2) the financial position of the partnership at March 31, 1959, and
   (3) the results of its operations for the year then ended on the accrual basis.

b. The entries in journal form to adjust the accounts, including entries necessary to place the books on an accrual basis. Give brief explanations for each adjustment, and key the journal form adjustments to the adjustments in worksheet.

*Number 4*

The XYZ Company keeps its books and files its income tax returns on the accrual basis. The company has asked you to determine as near as possible the amount of cash which would be required on March 15, 1959, to pay the amount due on the income tax liability for the calendar year 1958.

The company's operation involves the purchase and resale of machine parts. No manufacturing is done.

Your examination of the 1957 income tax return resulted in the following information: All assets had the same basis for book and tax purposes.

Bad debts are deducted on the reserve method.

There is an unused capital loss carryover to 1958 of $1,300.

You have obtained the following information regarding the operations of the company for 1958:

*Balance Sheets*

| | December 31, 1957 | | December 31, 1958 | |
|---|---|---|---|---|
| | *Debit* | *Credit* | *Debit* | *Credit* |
| Cash | $ 111,000 | | $ 132,000 | |
| Accounts receivable | 314,000 | | 337,000 | |
| Reserve for bad debts | | $ 12,000 | | $ 13,000 |
| Reserve for cash discounts | | 6,000 | | 4,500 |
| Inventory | 626,000 | | 657,000 | |
| Reserve for future inventory price decline | | — | | 12,000 |
| Investments | 157,000 | | 147,000 | |
| Cash surrender value of officers' life insurance | 18,500 | | 21,000 | |
| Fixed assets | 602,800 | | 681,400 | |
| Reserve for depreciation | | 203,400 | | 291,900 |
| Accounts payable | | 167,000 | | 133,000 |
| Accrued salaries and wages | | 72,000 | | 68,000 |
| Accrued federal income taxes | | 220,000 | | 186,000 |
| Reserve for lawsuit | | — | | 80,000 |
| Capital stock | | 400,000 | | 400,000 |
| Retained earnings | | 780,900 | | 787,000 |
| Treasury stock | 32,000 | | — | |
| Totals | $1,861,300 | $1,861,300 | $1,975,400 | $1,975,400 |

*Income Statement*
*Year Ended December 31, 1958*

| | | |
|---|---|---|
| Sales | | $2,089,600 |
| Less—Cost of goods sold (including $12,000 provision for inventory price decline) | | 1,298,000 |
| | | 791,600 |
| Selling and general and administrative expenses— | | |
| Salaries and wages | $284,400 | |
| Heat, light, water, etc. | 41,000 | |
| Depreciation | 93,400 | |
| Repairs | 28,700 | |
| Advertising | 3,300 | |
| Bad debt expense | 1,000 | |
| Officers' life insurance (net) | 2,300 | |
| Supplies | 51,200 | |
| Miscellaneous | 21,800 | 527,100 |
| Net profit from operations | | 264,500 |
| Other income | | 11,000 |
| Profit before taxes | | 275,500 |
| Provision for federal income taxes | | 150,000 |
| Net profit | | $ 125,500 |

*Retained Earnings*
*Year Ended December 31, 1958*

| | | |
|---|---|---|
| Balance January 1, 1958 | | $ 780,900 |
| Add—Net profit for the year | $125,500 | |
| Gain on parking lot condemned for expressway, such property not to be replaced | 16,600 | 142,100 |
| | | 923,000 |
| Deduct—Cash dividends paid | 50,000 | |
| Provision for lawsuit | 80,000 | |
| Loss on sale of treasury stock | 6,000 | 136,000 |
| Balance December 31, 1958 | | $ 787,000 |

The treasury stock sold during the year was purchased August 5, 1952 for $32,000 and sold December 5, 1958 for $26,000. The condemned parking lot was purchased February 6, 1938 for $9,000 and sold June 12, 1958 for $25,600.

An analysis of accrued federal income taxes showed the following transactions for the year:

| | | |
|---|---|---|
| Balance, December 31, 1957 | | $220,000 |
| Provision | | 150,000 |
| | | 370,000 |
| Payments— | | |
| 1957 tax | $160,000 | |
| Additional assessment for 1955 (including $1,800 interest) | 16,000 | |
| 1958 declaration | 8,000 | 184,000 |
| Balance, December 31, 1958 | | $186,000 |

Other income included the following:

| | |
|---|---|
| Dividends from domestic corporations | $ 6,000 |
| Iowa highway bond interest | 1,100 |
| Outstanding payroll checks written off | 500 |
| U. S. Savings bond interest | 600 |
| Chicago school bond interest | 400 |
| Gain on sale of assets | 2,400 |
| Total | $ 11,000 |

The $2,400 gain on sale of assets resulted from the following dispositions during the year:

| | *Gain or (Loss)* |
|---|---|
| Assets held for more than six months— | |
| Mailing machine | $ (400) |
| 1955 Ford (Net depreciated cost $900—trade-in allowance on January 2, 1958, $1,100; all automobiles are depreciated at 20% per year) | 200 |
| 100 shares Brown Co. common stock | 3,200 |
| Assets held for less than six months— | |
| 50 shares Jones, Inc. common stock | (500) |
| Bookkeeping machine | (100) |

*Required:*

A schedule showing the calculation of the federal income tax, the balance of tax due, and the cash required March 15, 1959.

*Number 5*

The Smith Company, Inc. went through a quasi-reorganization as of December 31, 1957 eliminating the deficit in earned surplus and reducing the value of fixed assets from $900,000 to their appraised replacement value of $700,000. No adjustment of the reserve for depreciation was required.

During 1958, the Company sold $300,000 principal amount of First Mortgage Bonds. The indenture securing these bonds provides that "the Company shall not declare or pay any dividends unless, immediately after giving effect to such action, the aggregate amount declared or paid as dividends subsequent to December 31, 1957 will not be more than the net income of the Company earned subsequent to December 31, 1957." The

indenture's definition of net income contains a provision that the depreciation deductions shall be the larger of the amount actually deducted on the books of the Company or the amount claimed for federal income tax purposes.

Net income for 1958, before provisions for depreciation and federal income tax, amounted to $85,000 for both book and tax purposes. The estimated remaining life of fixed assets is 20 years from December 31, 1957 and net basis is to be written off at straight-line rates for book and tax purposes. The Company declared and paid dividends on common stock aggregating $25,000 on December 31, 1958.

A summary balance sheet immediately prior to reorganization as of December 31, 1957 is presented below:

*Summary Balance Sheet—December 31, 1957*
*(Prior to Reorganization)*

| *Assets* | | *Net Worth* | |
|---|---|---|---|
| Net working capital | $ 50,000 | Common stock | $600,000 |
| Fixed assets | 900,000 | Paid-in surplus | 500,000 |
| Reserve for depreciation | (100,000) | Earned surplus (deficit) | (250,000) |
| | $850,000 | | $850,000 |

The deficit in earned surplus is due to losses for book and tax purposes amounting to $70,000, $40,000, $50,000, $60,000 and $30,000 for the years 1953 through 1957 respectively. The Company was incorporated January 1, 1953.

*Required:*

a. Summary balance sheet for book purposes as of December 31, 1958.
b. Net taxable income for federal income tax purposes for 1958.
c. Carry-forward losses for federal income tax purposes available as a reduction of 1958 and 1959 taxable income.
d. Percentage of common stock dividend taxable to recipients.

*Number 6*

The Self-Service Drug Company is a retail drug store which is operated by Mr. Smith as a sole proprietorship. Mr. Smith carries a business interruption insurance policy on this store, the pertinent details and provisions of which are as follows:

| | |
|---|---|
| Amount of insurance carried | $40,000 |
| Co-Insurance Clause | 80% |

Risks Covered—Fire and Extended Coverage.
Type of Policy—Single Item Gross Earnings Form for Mercantile Risks.

The important clauses are as follows:

1. Recovery in the event of loss hereunder shall be the Actual Loss Sustained by the Insured directly resulting from such interruption of business, but not exceeding the reduction in gross earnings less charges and expenses which do not necessarily continue during the interruption of business.

2. Gross Earnings: For the purposes of this insurance "Gross Earnings" are defined as the sum of:

(a) Total net sales, less any expense items eliminated entirely by loss of sales and directly applicable thereto, and

(b) Other earnings derived from operation of the business, less the cost of:
(c) Merchandise sold, including packaging materials therefor, exclusive of purchase discounts,
(d) Materials and supplies consumed directly in service(s) sold, and
(e) Service(s) purchased from outsiders (not employees of the Insured) for resale which do not continue under contract.

No other costs shall be deducted in determining "Gross Earnings."

3. Contribution Clause: In consideration of the rate and form under which this policy is written, this Company shall be liable, in the event of loss, for no greater proportion thereof than the amount hereby covered bears to 80% of the gross earnings that would have been earned (had no loss occurred) during the 12 months immediately following the date of damage to or destruction of the described property.

4. Expense to Reduce Loss: This policy also covers such expenses as are necessarily incurred for the purpose of reducing any loss under this policy (except expense incurred to extinguish a fire), not exceeding, however, the amount by which the loss under this policy is thereby reduced. Such expenses shall not be subject to the application of the Contribution Clause.

On the morning of March 1, 1958, before the store was opened for business for the day, the assured's store was damaged by fire. As a result thereof, it was necessary to discontinue business until the store could be repaired and repainted and new stock ordered and received to replace that damaged or destroyed. All equipment and furnishings in the store were not damaged beyond repair. In order to resume operations as soon as possible, thereby reducing the loss sustained, the assured in repairing the building and restocking the store incurred the following expenses with the approval of the insurance company. The co-insurance clause does not apply to these expenses.

| | |
|---|---|
| Overtime premium paid to construction workers in repairing and repainting building | $425 |
| Additional costs to restock merchandise: | |
| Long-distance telephone calls | 35 |
| Air freight (excess over regular method of shipping) | 230 |

The assured opened his store for business on April 1, 1958. All repairs had been completed and all the replacement stock had been received by this date, thereby limiting the loss period to one month.

As the assured's auditor you are engaged to compute the amount of the claim that is payable under the terms of this policy.

The statement of income and expense for the calendar year 1957 is as follows:

| | | |
|---|---|---|
| Sales | | $160,000 |
| Cost of goods sold: | | |
| Inventory—Beginning of year | $ 37,230 | |
| Merchandise purchases | 110,100 | |
| Freight and express in | 530 | |
| Total | $147,860 | |
| Less: Inventory—End of year | 43,860 | |
| Cost of goods sold | | 104,000 |
| Gross profit | | 56,000 |

| | | |
|---|---|---|
| Operating expenses: | | |
| Salaries and wages | 23,000 | |
| Rent | 3,600 | |
| Taxes—F.I.C.A. and Unemployment | 920 | |
| Taxes—Other | 1,000 | |
| Bad debts | 400 | |
| Bad checks | 100 | |
| Depreciation | 3,560 | |
| Delivery truck expense | 280 | |
| Insurance | 1,698 | |
| Advertising | 2,042 | |
| Wrapping materials | 300 | |
| Other supplies and repairs | 1,500 | |
| Sales discounts | 1,040 | |
| Other operating expenses | 5,000 | |
| Total operating expenses | | 44,440 |
| Net operating income | | 11,560 |
| Add: Other income: | | |
| Purchase discounts | 840 | |
| Interest on savings accounts | 200 | 1,040 |
| Net income | | $ 12,600 |

During the course of this engagement you established the following facts:

1. The sales volume is consistent from month to month throughout the year and no increase or decrease in sales is anticipated subsequent to the fire. As a result of price changes initiated in January, 1958, the gross profit on sales was increased by 2% and such gross earnings are consistent from month to month.

2. During the loss period all employees were paid their regular monthly salaries. However, normal overtime on all employees of about $100 per month was saved. During the loss period all of the employees were able to take their annual two-weeks vacation.

3. Under the terms of the lease the rent on the building of $300 per month was discountinued for the loss period.

4. As a result of not being open for business, advertising costs were about ½ of the normal amount spent for this purpose.

5. All other costs not directly related to sales continued 100%. (Had the loss period been longer some of these items likely would have been discontinued.)

*Required:*

a. Amount of insurance required based on 80% co-insurance clause.

b. Amount of loss sustained which is subject to a possible co-insurance penalty.

c. Total amount to be received by the assured under the terms of the policy.

Show all details of computations and state any assumptions that you have made in answering this problem. Disregard pennies in computations and compute percentages to two places (Ex. 50.45%).

## *Solution to Problem 1*

### *Y & P MUSIC COMPANY*
### *ADJUSTMENT OF INTERCOMPANY ACCOUNTS*

| *Journal Entries* | *Seattle Store* | | | | *Tacoma Store* | | | |
|---|---|---|---|---|---|---|---|---|
| | *Cash* | *Organ Purchases* | *Intercompany Account* | *Notes Payable* | *Cash* | *Organ Purchases* | *Intercompany Account* | *Notes Payable* |
| Bank loan on organ purchase: | | | | | | | | |
| (1) Actual entry | | | | | $5,670 | | | $(5,670) |
| (2) Correct entry | | $5,670 | | $(5,670) | 5,670 | | $(5,670) | |
| Payment by Seattle of 10% of cost: | | | | | | | | |
| (1) Actual entry | $ (630) | | $ 630 | | 630 | | (630) | |
| (2) Correct entry | (630) | 630 | | | 630 | | (630) | |
| Payment of seller's draft: | | | | | | | | |
| (1) Actual entry | | | | | (6,300) | | | 6,300 |
| (2) Correct entry | | | | | (6,300) | | 6,300 | |
| Installment payment on note: | | | | | | | | |
| (1) Actual entry | (630) | | 630 | | | 630 | (630) | |
| (2) Correct entry | (630) | | | (630) | | | | |
| Payment of balance of note: | | | | | | | | |
| (1) Actual entry | (5,040) | 5,040 | | | | | | |
| (2) Correct entry | (5,040) | | | 5,040 | | | | |
| Account balances resulting from above entries: | | | | | | | | |
| (1) Actual entries | (6,300) | 5,040 | 1,260 | — | — | 630 | (1,260) | 630 |
| (2) Correct entries | (6,300) | 6,300 | — | — | — | — | — | — |

### *REQUIRED JOURNAL ENTRIES*

| | | |
|---|---|---|
| *Seattle Store:* | | |
| Dr. Organ Purchases | $1,260 | |
| Cr. Intercompany account | | $1,260 |
| *Tacoma Store:* | | |
| Dr. Intercompany account | $1,260 | |
| Cr. Notes payable | | $ 630 |
| Cr. Organ purchases | | 630 |

## *Solution to Problem 2*

### *CLAXTON MACHINE COMPANY*
### *SCHEDULE OF ESTIMATED CASH RECEIPTS AND DISBURSEMENTS*
### *FOR THE SIX MONTHS ENDED DECEMBER 31, 1959*

| | *July* | *August* | *September* | *October* | *November* | *December* |
|---|---|---|---|---|---|---|
| Cash balance at beginning of month | $ 511 | | | | | |
| Minimum balance required by loan agreement | (500) | | | | | |
| Available cash at beginning of month | $ 11 | $ — | $ — | $ — | $ 771 | $2,342 |
| Cash receipts: | | | | | | |
| Bank loan | 12,000 | | | | | |
| Collections on billings to customers (See schedule): | | | | | | |
| One-half of prior month's billings | $ 1,800 | 2,040 | 3,080 | 3,560 | 3,840 | 3,840 |
| Collectible portion of second prior months billings | 1,150* | 1,750 | 1,990 | 3,030 | 3,510 | 3,790 |
| Total | $14,961 | $3,790 | $5,070 | $6,590 | $8,121 | $9,972 |
| Cash disbursements: | | | | | | |
| Purchase of machines | $12,000 | | | | | |
| Assembly of machines | 600 | | | | | |
| Supplementary machine fixtures | 450 | | | | | |
| Overtime labor | 300 | | | | | |
| Material purchased (see schedule) | 1,930 | $2,500 | $3,300 | $3,700 | $3,840 | $3,840 |
| Salaries for service and maintenance | 800 | 1,200 | 1,200 | 1,200 | 1,200 | 1,200 |
| General shop expense and other | 616 | 616 | 616 | 616 | 616 | 616 |
| Maintenance supplies | 60 | 75 | 75 | 75 | 75 | 75 |
| Payroll taxes | 44 | 48 | 48 | 48 | 48 | 48 |
| Federal income tax | | | 600 | | | 600 |
| Interest on bank loan | | | | 180 | | |
| Accountant's fee | 400 | | | | | |
| Total | $17,200 | $4,439 | $5,839 | $5,819 | $5,779 | $6,379 |
| Cash deficiency | $ 2,239 | $ 649 | $ 769 | $ — | $ — | $— |
| Cash balance at end of month | — | — | — | 771 | 2,342 | 3,593 |

* The calculation of July collections is based upon the assumption that the unexplained portion of June 30 receivables ($1,200) consisted entirely of uncollected May billings and that the allowance for losses was $140 in excess of estimated requirements.

Calculation of monthly billing:

| | Total Units Produced | Machines Billed at $160 per Machine No. | Amount | Units Produced Billed at $8 per 100 No. | Amount | Total |
|---|---|---|---|---|---|---|
| July | 49,000 | 6 | $ 960 | 39,000 | $3,120 | $4,080 |
| August | 76,000 | 8 | 1,280 | 61,000 | 4,880 | 6,160 |
| September | 89,000 | 2 | 320 | 85,000 | 6,800 | 7,120 |
| October | 96,000 | | | 96,000 | 7,680 | 7,680 |
| November | 96,000 | | | 96,000 | 7,680 | 7,680 |
| December | 96,000 | | | 96,000 | 7,680 | 7,680 |
| January | 100,000 | | | | | |

Calculation of raw material purchases and payments:

| | Current Mo. Consumption | ½ of Following Mo. Consumption | Total | Less Inventory at beginning of Mo. | Required Purchases during Mo. | Paid on prior Mo. Purchases |
|---|---|---|---|---|---|---|
| July | 1,960 gals. | 1,520 gals. | 3,480 gals. | 980 gals. | 2,500 gals. | $1,930 |
| August | 3,040 | 1,780 | 4,820 | 1,520 | 3,300 | 2,500 |
| September | 3,560 | 1,920 | 5,480 | 1,780 | 3,700 | 3,300 |
| October | 3,840 | 1,920 | 5,760 | 1,920 | 3,840 | 3,700 |
| November | 3,840 | 1,920 | 5,760 | 1,920 | 3,840 | 3,840 |
| December | | | | | | 3,840 |

## Solution to Problem 3

### A & B SKATING RINK
### TRANSACTIONS AND ADJUSTMENTS FROM 3-31-58 TO 3-31-59

| (a) | Balance at 3-31-58 Dr. | Cr. | Transactions per Books Dr. | Cr. | Adjustments Dr. | Cr. | Net Income | Balance at 3-31-59 Dr. | Cr |
|---|---|---|---|---|---|---|---|---|---|
| Cash | $ 1,295 | | | $ 934 | | | | $ 361 | |
| Accounts receivable | 86 | | | | | (2) $ 71 | | 15 | |
| Inventory | 119 | | | | | (1) 11 | | 108 | |
| Prepaid insurance | 270 | | | | | (5) 27 | | 243 | |
| Land | 500 | | | | (7) $ 1,898 | | | 2,398 | |
| Building & building improvements | 6,628 | | | | | | | 6,628 | |
| Equipment | 2,522 | | | | | | | 2,522 | |
| Accumulated depreciation | | $ 5,476 | | | | (6) 817 | | | $ 6,293 |
| Accounts payable | | 882 | | | (3) 733 | | | | 149 |
| Taxes payable | | 208 | | | | (4) 9 | | | 217 |
| Capital—Mrs. A | | 2,427 | | | (9) 1,544 | (10) 1,641 | | | 2,524 |
| Capital—Mrs. B | | 2,427 | | | (9) 976 | (10) 1,641 | | | 3,092 |
| Admissions | | | | 4,817 | | | $4,817 | | |
| Admissions tax collected | | | | 231 | (8) 231 | | | | |
| Skate rentals | | | | 1,899 | | | 1,899 | | |
| Sales | | | | 3,112 | (2) 71 | | 3,041 | | |
| State tax collected | | | | 56 | (8) 56 | | | | |
| Wages paid | | | $ 696 | | (8) 62 | | (758) | | |
| Purchases | | | 2,434 | | (1) 11 | (3) 89 | (2,356) | | |
| Insurance | | | 750 | | | (5) 219 | (531) | | |
| Heat, fuel and telephone | | | 579 | | | (3) 20 | (559) | | |
| Supplies | | | 309 | | | (3) 18 | (291) | | |
| Payroll taxes paid | | | 142 | | | (4) 49 | | | |
| | | | | | | (8) 62 | (31) | | |
| City admission taxes paid | | | 239 | | | (4) 8 | | | |
| | | | | | | (8) 231 | | | |
| State sales and excise taxes paid | | | 179 | | | (4) 7 | | | |
| | | | | | | (8) 56 | (116) | | |
| Property taxes paid | | | 74 | | (4) 73 | | (147) | | |
| Equipment repairs | | | 260 | | | (3) 40 | (220) | | |
| Building repairs & improvements | | | 2,914 | | | (3) 540 | | | |
| | | | | | | (7) 1,898 | (476) | | |
| Miscellaneous expense | | | 199 | | | (3) 26 | (173) | | |
| Drawing—Mrs. A | | | 1,434 | | (5) 110 | (9) 1,544 | | | |
| Drawing—Mrs. B | | | 840 | | (5) 136 | (9) 976 | | | |
| Depreciation expense | | | | | (6) 817 | | (817) | | |
| Net income | | | | | (10) 3,282 | | $3,282 | | |
| | $11,420 | $11,420 | $11,049 | $11,049 | $10,000 | $10,000 | | $12,275 | $12,275 |

(b)

| | | |
|---|---|---|
| 1) Purchases | $ 11 | |
| Inventory | | $ 11 |
| To adjust the accounts to reflect the physical inventory at March 31, 1959. | | |
| 2) Sales | 71 | |
| Accounts receivable | | 71 |
| To adjust accounts for collection of prior year's sales included in current year's sales. | | |
| 3) Accounts payable | 733 | |
| Purchases | | 89 |
| Heat, fuel and telephone | | 20 |
| Supplies | | 18 |
| Equipment repairs | | 40 |
| Building repairs and improvements | | 540 |
| Miscellaneous expense | | 26 |
| To adjust the accounts for prior year's expenses included in current year's expenses. | | |
| 4) Property taxes | 73 | |
| Taxes payable | | 9 |
| Payroll taxes paid | | 49 |
| City admissions tax paid | | 8 |
| State sales and excise taxes paid | | 7 |
| To adjust the various tax expense accounts and accrued taxes to their balances on an accrued basis at March 31, 1959. | | |
| 5) Drawing—Mrs. A | 110 | |
| Drawing—Mrs. B | 136 | |
| Insurance expense | | 219 |
| Prepaid insurance | | 27 |
| To adjust the proprietors' accounts for personal expenses and to adjust insurance expense to an accrual basis. | | |
| 6) Depreciation expense | 817 | |
| Reserve for depreciation | | 817 |
| To record depreciation expense for the year. | | |
| 7) Land | 1,898 | |
| Building repairs and improvements | | 1,898 |
| To reclassify cost of special assessment as a part of the cost of the land. | | |
| 8) Admissions tax collected | 231 | |
| State tax collected | 56 | |
| Wages paid | 62 | |
| City admissions tax paid | | 231 |
| State and city sales and excise tax paid | | 56 |
| Payroll taxes paid | | 62 |
| To reclassify taxes collected as offsets to taxes paid. | | |
| 9) Capital—Mrs. A | 1,544 | |
| Capital—Mrs. B | 976 | |
| Drawings—Mrs. A | | 1,544 |
| Drawings—Mrs. B | | 976 |
| To close partners' drawing accounts to partners' capital accounts. | | |
| 10) Net income | 3,282 | |
| Capital—Mrs. A | | 1,641 |
| Capital—Mrs. B | | 1,641 |
| To close net income for the year to partners' capital accounts. | | |

## *Solution to Problem 4*

*XYZ CORPORATION*
*CALCULATION OF FEDERAL INCOME TAX AND CASH REQUIRED*
*AT MARCH 15, 1959*

| | |
|---|---|
| Calculation of Federal income tax: | |
| Tax on ordinary income: | |
| Net income per books (before taxes) | $275,500 |
| Add non-deductible expenses: | |
| Net premium on officers' life insurance | 2,300 |
| Provision for future inventory price decline | 12,000 |
| Excess provision for depreciation on new auto (resulting from failure to treat the $200 gain on the trade-in as a reduction of basis; 20% of $200) | 40 |
| Total | $289,840 |

| | | | |
|---|---|---|---|
| Less: | | | |
| Non-taxable interest income | | 1,500 | |
| Interest on additional assessment of Federal income tax | | 1,800 | |
| Decrease in reserve for cash discounts | | 1,500 | |
| Dividend credit (85% of $6,000) | | 5,100 | |
| Capital gains included in net income: | | | |
| Gain on sale of Brown Co. stock | | 3,200 | |
| Loss on sale of mailing machine | | (400) | |
| Loss on sale of Jones, Inc. stock | | (500) | |
| Gain on trade-in of auto | | 200 | |
| Total | | $ 12,400 | |
| Ordinary income | | $277,440 | |
| Tax (52% of $277,440 less $5,500) | | | $138,769 |
| Tax on capital gains: | | | |
| Net long term capital gain: | | | |
| Gain on condemnation of land | $16,600 | | |
| Gain on sale of Brown Co. stock | 3,200 | | |
| Loss on sale of mailing machine | (400) | $ 19,400 | |
| Net short-term capital loss: | | | |
| Loss on Jones, Inc. stock | $ 500 | | |
| Unused capital loss carry-over | 1,300 | 1,800 | |
| Net long-term gain | | $ 17,600 | |
| Tax (25% of $17,600) | | | 4,400 |
| Total tax | | | $143,169 |
| Payments on 1958 tax | | | 8,000 |
| Remaining tax liability | | | $135,169 |
| Cash required for installment due March 15, 1959 (½ of $135,169) | | | $ 67,585 |

## *Solution to Problem 5*

*THE SMITH COMPANY*
*SUMMARY BALANCE SHEETS*
*DECEMBER 31, 1957 AND 1958*

(a)

| | *Balance Sheet** *12-31-57* | *Transactions* *Dr.* | *Transactions* *Cr.* | *Balance Sheet* *12-31-58* |
|---|---|---|---|---|
| Net working capital | $ 50,000 | (2) $300,000 | (4) $ 25,000 | $410,000 |
| | | (3) 85,000 | | |
| Fixed assets | 900,000 | | (1) 200,000 | 700,000 |
| Reserve for depreciation | (100,000) | | (5) 30,000 | (130,000) |
| | $850,000 | | | $980,000 |
| First mortgage bonds | | | (2) 300,000 | $300,000 |
| Common stock | $600,000 | | | 600,000 |
| Paid-in surplus | 500,000 | (1) 450,000 | | 50,000 |
| Earned surplus (See Note) | (250,000) | (4) 25,000 | (3) 85,000 | |
| | | (5) 30,000 | (1) 250,000 | 30,000 |
| | $850,000 | | | $980,000 |

NOTE. The earned surplus account at December 31, 1958 represents the accumulated undistributed net income since December 31, 1957. Of this amount, $10,000.00 is restricted under the terms of the bond indenture.

* Prior to reorganization.

Key to transactions:
1) To give effect to entries in connection with the reorganization.
2) To record sale of bonds.
3) Net income before provision for depreciation.
4) Dividends paid.
5) Provision for depreciation (1/20 of ($700,000—$100,000))

(b)

*Net taxable income*

| | |
|---|---|
| Net income per books before depreciation | $85,000 |
| Provision for depreciation (1/20 of ($900,000—$100,000)) | 40,000 |
| Taxable income | $45,000 |

(c)

Summary of carry-forward losses available as a reduction of taxable income in:

| | *1958* | *1959* |
|---|---|---|
| 1953 net operating loss | $70,000* | |
| 1954 net operating loss | 40,000 | $40,000 |
| 1955 net operating loss | 50,000 | 50,000 |
| 1956 net operating loss | 60,000 | 60,000 |
| 1957 net operating loss | 30,000 | 30,000 |

* Of the $70,000 operating loss, $45,000 would be applied against 1958's taxable income of $45,000. The unused portion is not available as a reduction of 1959 taxable income due to the termination of the carry-forward period.

(d)

The dividend is wholly taxable to the recipients since the dividend was paid from taxable earnings of the current year. Prior years' deficits have no effect in this instance since the current year's taxable earnings exceeded the amount of dividend paid.

## *Solution to Problem 6*

(a)

| | | |
|---|---|---|
| Gross profit for 1957 | | $56,000 |
| Less: Bad debts | $ 400 | |
| Bad checks | 100 | |
| Sales discounts | 1,040 | |
| Wrapping materials | 300 | 1,840 |
| | | $54,160 |
| Add: Purchase discounts | $ 840 | |
| Increase in selling prices (2% of $160,000) | 3,200 | 4,040 |
| Estimated gross profit for twelve months ended 2-28-59 | | $58,200 |

Under the 80% co-insurance clause the insurance required is 80% of $58,200 or $46,560.

(b)

| | | |
|---|---|---|
| Loss of gross profit (1/12 of $58,200) | | $ 4,850 |
| Less cost reductions: | | |
| Saving on overtime | $ 100 | |
| F.I.C.A. and unemployment taxes (4% of $100) | 4 | |
| Rent for one month | 300 | |
| Reduction in advertising expense (½ of 1/12 of $2,042) | 85 | 489 |
| Loss subject to co-insurance penalty | | $ 4,361 |

(c)

| | | |
|---|---|---|
| Loss sustained | | $ 4,361 |
| Portion to be paid by insurance company (40,000/46,560×4,361) | | $ 3,747 |
| Other claims against insurance company: | | |
| Overtime premium to construction worker | $ 425 | |
| Long-distance telephone calls | 35 | |
| Excess shipping costs using air freight | 230 | 690 |
| Total claim against insurance company | | $ 4,437 |

# EXAMINATION IN THEORY OF ACCOUNTS

CHARLES T. ZLATKOVICH

THE examination in theory of accounts of the May, 1959, Uniform C.P.A. Examination was given Friday afternoon, May 15 from 1:30 to 5:00 P.M. There were two groups of questions as follows:

| | *Estimated Minutes* | |
|---|---|---|
| | *Minimum* | *Maximum* |
| Group I (All required): | | |
| No. 1 | 15 | 20 |
| No. 2 | 15 | 20 |
| No. 3 | 20 | 30 |
| Total for Group I | 50 | 70 |
| Group II (Four required) | 100 | 140 |
| Total for examination | 150 | 210 |

The estimated time allowances are approximately proportional to the point values of the questions, the total of which for this examination is 100.

## *GROUP I*

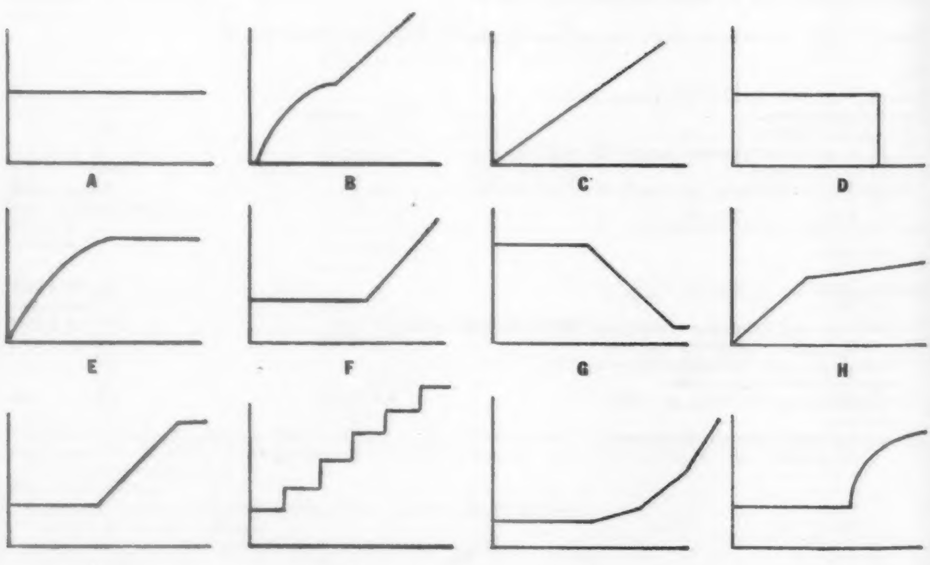
(Answer all questions in this group.)

*Number 1 (Estimated time—15 to 20 minutes)*

On a lined sheet of paper number the first ten lines from 1 through 10. Select the graph which matches the numbered factory cost or expense data and write the letter identifying the graph on the appropriate numbered line.

The vertical axes of the graphs represent *total* dollars of expense and the horizontal axes represent production. In each case the zero point is at the intersection of the two axes. The graphs may be used more than once.

1. Depreciation of equipment, where the amount of depreciation charged is



computed by the machine hours method.

2. Electricity bill—a flat fixed charge, plus a variable cost after a certain number of kilowatt hours are used. F

3. City water bill, which is computed as follows:

| | |
|---|---|
| First 1,000,000 gallons or less | $1,000 flat fee |
| Next 10,000 gallons | .003 per gallon used |
| Next 10,000 gallons | .006 per gallon used |
| Next 10,000 gallons | .009 per gallon used |
| etc., etc., etc. | |

4. Cost of lubricant for machines, where cost per unit decreases with each pound of lubricant used (for example, if one pound is used, the cost is $10.00; if two pounds are used, the cost is $19.98; if three pounds are used, the cost is $29.94; with a minimum cost per pound of $9.25).

5. Depreciation of equipment, where the amount is computed by the straight-line method. When the depreciation rate was established it was anticipated that the obsolescence factor would be greater than the wear and tear factor.

6. Rent on a factory building donated by the city, where the agreement calls for a fixed fee payment unless 200,000 man-hours are worked, in which case no rent need be paid.

7. Salaries of repairmen, where one repairman is needed for every 1,000 hours of machine hours or less (i.e., 0 to 1,000 hours requires one repairman, 1,001 to 2,000 hours requires two repairmen, etc.).

8. Federal unemployment compensation taxes for the year, where labor force is constant in number throughout year (average annual salary is $6,000 per worker).

9. Cost of raw material used.

10. Rent on a factory building donated by county, where agreement calls for rent of $100,000 less $1 for each direct labor hour worked in excess of 200,000 hours, but minimum rental payment of $20,000 must be paid.

*Answer 1*

| | |
|---|---|
| 1. C | 6. D |
| 2. F | 7. J |
| 3. K | 8. H |
| 4. B | 9. C |
| 5. A | 10. G |

*Number 2 (Estimated time—15 to 20 minutes)*

In the preparation of the consolidated balance sheet of a parent corporation and its subsidiaries a decision must be reached concerning the inclusion or exclusion of each of them as a member of the consolidated group. A common criterion is the percentage of voting stock owned by the parent company.

a. What is the significance of the percentage of voting stock ownership in justifying the inclusion of a subsidiary company in a consolidated statement?

b. List other criteria upon which the decision to consolidate or not may also rest.

*Answer 2*

a. The percentage of voting stock owned determines the existence of control. There is no minimum percentage which alone determines whether control exists. If the parent company has the power to exercise control and does exercise this control then consolidation is proper provided the criteria listed under (b) are met. Exercise of control implies an integration of activities of the parent and subsidiary as an economic unit.

Effective and continuing control over decisions of the subsidiary are more likely to exist where the stock ownership is substantial. Where the investment in the controlled company is large, statements of the parent on a non-consolidated basis may be of limited usefulness.

b. Despite the exercise of control the decision to prepare consolidated statements

must also depend on affirmative answers to several of these questions:

1. Are the operations similar, i.e., does the group of companies form an integrated economic unit?
2. Are parallel accounting practices reflected in the books of the several companies? This includes coinciding fiscal years.
3. Is the investment in the subsidiaries so material in relation to other assets of the parent that failure to prepare consolidated statements is likely to obscure significant underlying details?
4. Are sales of the subsidiaries material in relation to those of the parent?
5. In the case of foreign subsidiaries
   (a) is the currency stable and unrestricted?
   (b) are assets reasonably free of the prospect of expropriation or governmental control?
6. Would consolidated statements be a fair financial and legal representation of related units? For example, consolidation of a solvent parent and a bankrupt subsidiary would constitute a serious violation of this criterion.
7. Is there a large volume of intercompany transactions?

*Number 3* (*Estimated time—20 to 30 minutes*)

Your client, a manufacturer of heavy machinery, is contemplating replacing a considerable portion of the company's productive machinery. Much of the new machinery will be manufactured by the company. The client asks your opinion on the following methods of allocating factory overhead incurred during the construction of the new machinery:

(1) Charge no overhead to the new machinery.
(2) Charge new machinery with only that portion of overhead which is attributable to the new construction.
(3) Charge new machinery with overhead at the same rate as is used for finished goods.

a. What are the arguments in favor of each of these alternatives?

b. Which alternative would you recommend to your client? *State the reasons for your choice.*

*Answer 3*

a. Arguments in favor of method (1) are that charging some overhead to fixed assets will increase profit since cost of goods sold would be reduced. Production of plant assets would normally be carried on when existing facilities are not fully utilized in producing for customer order or stock; therefore, normal production will not be interfered with and there will be no increase in overhead.

Support for method (2) includes the fact that many overhead costs will not change as a result of production of the plant assets; these fixed overhead costs should continue to be charged to normal production. As a corollary, since inventory production is the main activity it should continue to bear all normal costs. At the same time there will be some identifiable increases in overhead as a result of the new construction. These costs should clearly be allocated to that activity.

Method (3) grants no special favors to one class of production. All productive activity, whether for stock or for plant use, should bear the same cost allocation. Allocation of overhead to fixed assets is similar to allocation to joint or by-products and should be made at regular rates. At the same time, no fixed asset should be capitalized at a higher value than that prevailing in the market.

b. Alternative (2) seems best. It does not relieve regular production of costs which would be allocated to it normally. It has the advantage over both (1) and (3) of not causing a change in what would otherwise be the reported net income. By capitalizing those costs which can be identified specifically with the production of plant assets, regular production is neither unduly relieved of overhead (Method 3) nor penalized with excessive overhead clearly attributable to the new construction (Method 1).

## *GROUP II*

*(Estimated time—100 to 140 minutes)*

Answer only four questions in this group. If five are answered only the first four will be considered.

### *Number 4*

a. Goodwill which is permitted on a statement (other than a consolidated statement) is that which has been purchased. Describe briefly two explanations which have been used to justify the recording of goodwill in the balance sheet of a corporation or partnership.

b. Present two methods for estimating the value of goodwill in determining the amount which should properly be paid for it.

c. Discuss the propriety of the item "Goodwill" on the balance sheet in each of the following cases using the "cost" concept as a guide.

(1) The excess of cost over book value of the net assets of firm A acquired by firm B.
(2) Goodwill placed on the books of an existing partnership immediately preceding the admission of a new partner.
(3) Goodwill arising from consolidation.

### *Answer 4*

a. Payment of an amount in excess of book value of equity being acquired in a going business does not necessarily reflect undervaluation of the recorded assets. Instead the excess payment may reflect existence of an unrecorded asset (goodwill) or undervaluation of goodwill already on the books. This excess may be paid because earnings of the enterprise in which an equity is being acquired have been and are expected to continue above normal. Another explanation is that there may be recognition that certain assets are undervalued but that it is more expedient to set up the amount of the excess payment in a Goodwill account than to assign new values to several assets. Still a third explanation is that in the particular going concern the Goodwill represents the excess of the value of a group of assets working together over their value individually.

b. Goodwill may be valued on these bases:

(1) Purchase of a number of years' profits.
(2) Purchase of a number of years' excess profits.
(3) Capitalization of excess profits at a certain rate (somewhat similar to (2)).
(4) Calculation of the present value of an annuity of estimated excess profits for a given number of years.

c.

(1) So long as the excess payment by B is not simply recognition of undervaluation of A's specific assets, the Goodwill treatment seems proper. A and B are separate entities and this treatment of the excess payment is in accordance with the "cost" concept.
(2) If the incoming partner pays more for his equity than book value would indicate is a proper payment for whatever capital share he is acquiring, the excess payment may well confirm the existence of hitherto unrecorded or undervalued goodwill. The excess paid by the incoming partner is sometimes used to parlay a considerable sum of goodwill on the books. For example a partner's paying $10,000 for a ¼ equity worth $7,000 in terms of book value can result in the recording of $9,000 of goodwill. His payment furnishes objective evidence of the existence of the goodwill, but only the $3,000 excess payment can be considered "cost" of goodwill.
(3) Goodwill arising from consolidation is the excess of cost of stock of a subsidiary over underlying book value of its assets. It does not appear as a separate element on the books of the parent corporation but rather appears only when consolidated statements are prepared. From the standpoint of the consolidated group, the excess over book value does represent cost. It is possible, however, that some portion of this excess is more properly allocable to specific assets undervalued on the subsidiary's books.

### *Number 5*

Mr. Brown recently purchased some

shares of stock in the Lalow Manufacturing Company, and is very much interested in the annual report to the stockholders which he has just received. He is confused by the use of the terms "expense" and "cost," found throughout the statements in this report, and has asked you to distinguish for him what accountants mean by the words "expense" and "cost," and how they can be used in so many places throughout the statements. The specific items which he questions are:

In the balance sheet:

a. Organization expense

b. A footnote, stating that Plant machinery and equipment includes "installation expenses" of $40,000

In the cost of goods manufactured and sold statement:

a. A classification "manufacturing expenses" with various items under this heading which include the term "expense"

*You are to:*

a. Distinguish between the terms "expense" and "cost."

b. State how each of the items mentioned by Mr. Brown "fits" your definition. If you think any of these items are improperly called "expenses" indicate why and suggest more appropriate terminology.

*Answer 5*

a. Expense is that portion of cost incurred that has been used up or has expired during the accounting period. The term cost is related to expenditure—the paying in cash or other assets or the incurring of an obligation—for goods or services received or to be received. Broadly, costs may be of two types—unexpired and expired. Unexpired costs are applicable to the production of future revenue; they are assets. Expired costs are those which no longer have asset status. It is common practice to distinguish various types of expired costs in income statements or captions in income statements. Examples include cost of goods sold, operating expenses, selling and administrative expenses, various losses such as casualty, from sale of assets, etc. The term *expense* is narrower and generally refers to the expense items just cited and to taxes, interest, etc.

b. To avoid confusion the term *expense* should be restricted to items appearing in the income statement. The various items deducted from revenue in this statement are the ones which accord to the definition given above. By assigning other terms to items appearing on other statements the confusion Mr. Brown mentions will be avoided.

Terminology used by Lalow Manufacturing Company is in line with common practice. Their renaming *Organization expense, Organization costs* would, however, be an improvement. Amounts of organization costs amortized in any period are properly included as expenses on an income statement.

Installation costs would be a better name for Installation expenses. Their footnote has the unfortunate effect of implying that these *Installation expenses* are essentially different from other elements of plant asset costs; this is not true.

The classification *Manufacturing expenses* should be renamed *Manufacturing Costs*. All items appearing on the manufacturing statement are elements of the cost of producing the factory output. As such, they are asset rather than expense items. They become "expenses" when, as a result of sale of the finished product, they are properly transferred to "cost of goods sold."

*Number 6*

The cost of unemployment compensation taxes to an employer is sometimes reduced as a result of a "good" experience rating. A manufacturer negotiated with

the Federal government a contract which necessitated the construction of a specific plant and related facilities for the sole purpose of producing the goods called for in the contract. Since the goods were required to meet emergency needs of the government, it was possible that after the plant facilities were constructed, the employees hired, and work on the order begun, the contract would be cancelled. The ensuing termination of services of employees hired for this specific job would make the employer's experience rating worse, which in turn would increase the cost of his unemployment compensation taxes. This "possible" cost was recognized as a cost in negotiating the contract.

*Describe in order of preference* three alternate methods of recording in accounts and/or disclosing on the financial statements the "possible" cost during the course of operations of this emergency plant under the contract. *State your reasons.*

*Answer 6*

Since the cost in question may never materialize, it is a contingent cost. Three alternate methods of recording and/or disclosing this contingent cost include:

1. Disclose the contingent cost in the financial statements, preferably by footnote, but make no entry in the accounts.

2. Appropriate sufficient retained earnings each period to cover that period's contingent cost. This would affect the balance sheet and retained earnings (surplus) statement, but not the income statement.

3. Accrue the cost by debiting an expense account and crediting an estimated future cost account over the next several periods.

Because the cost is at best a mere contingency the first solution seems preferable. The amount to be incurred (if any) is quite uncertain. The disclosure by means of footnote gives an opportunity to describe in some detail the nature of the contingent cost—something difficult to achieve by use of account titles. Further, in a footnote, amounts may be omitted or stated as a range.

The second method has the merit of not affecting the income statement with a charge which is hard to measure and which may not eventuate; at the same time balance sheet and retained earnings statement disclosure is achieved.

As already indicated the third method is undesirable for a number of reasons. Despite the fact the contingent cost was considered when the contract was negotiated, there is no real basis for reflecting it as an expense in the income statement. The matter of where to caption the account credited poses genuine difficulty. No liability has been incurred; no asset account has suffered an impairment of value; because an expense account was charged, the credit should not be treated as an appropriation of retained earnings. Clearly the third method is least satisfactory.

*Number 7*

You have a client engaged in a manufacturing business with relatively heavy fixed costs and large inventories of finished goods. These inventories constitute a very material item on the balance sheet. The company has a departmental cost accounting system that assigns all manufacturing costs to the product each period.

The controller of the company has informed you that the management is giving serious consideration to the adoption of direct costing as a method of accounting for plant operations and inventory valuation. The management wishes to have your opinion of the effect, if any, that such a change would have on:

(1) The year-end financial position
(2) The net income for the year
(3) The audit certificate on the year-end statements.

***State your reply to the requests and the reasons for your conclusions.***

*Answer 7*

Under the proposed direct costing system variable overhead would continue to be charged to production, but fixed overhead would be treated as a period cost and charged directly against revenue as incurred. Since the client has large inventories of finished goods and relatively heavy fixed costs, the effects of the proposed change, especially in the period in which the change is made, will be very material.

Since the present system assigns both fixed and variable costs to production (and hence to inventories) each period, and since under the proposed direct costing system the heavy fixed costs would be expensed, the decrease in unit cost of production will be substantial.

In the period in which the change is made there would be a large difference between the beginning and ending inventory values. Probably a write down of the beginning inventory to a value which would have been reflected had the direct costing method been employed earlier would be in order. The offsetting charge would reduce retained earnings. At the close of the period in which the new method is adopted both inventory and retained earnings will be at substantially lower values than would formerly have been the case.

The effect on net income is more difficult to predict. The difference between net income for the year as between the present method and direct costing depends on the relationship between sales and production quantities for the year. If more goods are produced than sold, net income would be higher under the present method than under direct costing because more fixed cost will be in ending inventory than in beginning inventory. Conversely, if sales exceed production, the opposite will be true.

The AICPA's Committee on Accounting Procedure has, on a number of occasions, stated that cost of inventories should include applicable expenditures and charges directly or indirectly incurred in bringing an article to existing completion and location. This can hardly be construed to mean that an element of factory cost, even though fixed, can properly be excluded from inventory cost. Therefore for purposes of conforming to generally accepted accounting principles, direct costing must be rejected. This is not to say that direct costing does not have usefulness as a basis of preparing internal reports for management. What is being said is that this company with its large inventories and heavy fixed costs cannot prepare statements for external usage following direct costing without expecting its independent auditor to qualify his opinion because of the depature from generally accepted accounting principles. Exception would also have to be taken on grounds of consistency with prior periods; the effect of this change would also have to be disclosed.

*Number 8*

Three theories of accounting entities are: (1) the proprietary theory, (2) the entity theory, and (3) the funds theory.

a. Describe briefly each of these theories.

b. State your reasons for emphasizing the application of one of these theories to each of the following:

1. Single proprietorship
2. Partnership
3. Financial institutions (banks)
4. Consolidated statements
5. Estate accounting.

*Answer 8*

The viewpoint of the proprietor dominates accounting concepts under the proprietary theory. Assets are viewed as belonging to the proprietor; debts are his debts; net income is an increase in his capital.

Separateness of the accounting unit from its owner or owners is the central idea

of the entity theory. Creditors and owners alike are interested in the welfare and success of the firm; they both have equities in it; it is accountable to them. Revenue and expense are visualized from the point of view of the firm.

In the funds theory the emphasis is on the flow of assets and changes in assets rather than on income. The balance sheet sets out assets on one side and restrictions on their use on the other. The area of interest may be broad or specific. For example in a municipality there may be numerous funds set up for and restricted to the accomplishment of narrowly defined objectives.

Selection of any one of these theories to apply to specific situations depends upon the emphasis desired. If the usual patterns prevail, the following emphasis would apply:

1. In a single proprietorship the emphasis should be on the proprietary theory because of the position of the owner with respect to income and his personal liability to creditors.

2. Either the proprietary or entity theory may be applied to a partnership. In support of the proprietary concept it can be noted that, as in the single proprietorship, creditors can look to personal assets of partners after firm assets are exhausted. On the other hand, the partnership is regarded more as a separate entity. The assets are firm assets; as noted, creditors must first look to these assets for settlement of their claims.

3. The entity theory is appropriate for financial institutions because they have responsibilities to depositors, policyholders, or other creditors; these have an interest which may greatly exceed that of the legal owners.

4. Either the proprietary or entity theory is appropriate to consolidated statements. The proprietary theory seems applicable because of the combining of assets and liabilities, cutting across entity lines. At the same time, the underlying concept is that of a separate economic entity.

5. The funds theory is appropriate to estate accounting. Emphasis is on accountability for assets and asset disposition and on compliance with restrictions on assets. Even as to income the restrictions seem to predominate.

# ASSOCIATION NOTES

WENDELL P. TRUMBULL

EDITOR'S NOTE: Members of the Association are urged to submit news items for this section to Wendell P. Trumbull, College of Business Administration, Lehigh University, Bethlehem, Pennsylvania. Deadline dates for the receipt of items to be included in THE REVIEW are October 15 for the January issue, January 15 for the April issue, April 15 for the July issue, and July 15 for the October issue.

THE PHILIPPINES

*Xavier University*

EDUARDO C. GOMEZ has been appointed dean of the College of Commerce.

ARKANSAS

*University of Arkansas*

NOLAN E. WILLIAMS has been promoted to the rank of professor. WALTER B. COLE recently spoke on accounting for cooperatives to an agricultural seminar.

CALIFORNIA

*Los Angeles State College*

LEONARD W. HEIN has been promoted to associate professor. TSUN CHEN and H. MILTON JONES have joined the department at the rank of assistant professor.

A third-semester course in income taxes has been added to cover certain aspects of tax litigation and the rationale of the income tax law.

*Stanford University*

LYLE E. JACOBSEN has been appointed chairman of the committee on educational standards of the San Francisco Chapter of the California Society of CPAs. He is a member of the committee at the state level.

ILLINOIS

*The University of Chicago*

WILLIAM A. PATON has been appointed visiting professor. CHARLES T. HORNGREN has accepted an associate professorship.

SIDNEY DAVIDSON served as a faculty member of the Public Utility Executive Program conducted by the University of Michigan.

*Northwestern University*

T. LEROY MARTIN is conducting research for the American Dental Association on the relation of cost to dental fees.

For the second successive year the University and the Illinois Society of CPAs will jointly sponsor an Advanced Professional Seminar concerned largely with the conduct of a public accounting practice.

IOWA

*State University of Iowa*

BILL L. BARNES has been promoted to the rank of associate professor. WILLIAM H. CULP has joined the staff as assistant professor. New appointees to instructorships are JOHN E. EASTON, HARRY OSTENDORF, and JAMES L. QUINN, JR.

The sixth annual tax and accounting conference, sponsored jointly with the Iowa Society of CPAs, will be held October 8-9, Daniel L. Sweeney is in charge of the conference.

KANSAS

*University of Wichita*

F. D. JABARA has been promoted to professor. A. THEODORE MUELLER has been appointed to the staff as lecturer.

During the year WILLIAM F. CRUM spoke on the proposed five-year program for training professional accountants before the Wichita and the Mid-Kansas chapters of the Kansas Society of CPAs.

LOUISIANA

*Tulane University*

The ninth annual Tulane Tax Institute is scheduled for November 4–6 at the St. Charles Hotel, New Orleans. PETER A. FIRMIN is executive secretary of the institute.

MASSACHUSETTS

*Bentley School of Accounting and Finance*

ROBERT J. WEAFER is serving as president of the Boston Chapter of NAA.

*University of Massachusetts*

JOHN W. ANDERSON was appointed chairman of the Department of Accounting on July 1. ROBERT W. LENTILHON has worked as one of the organizers of the Northeastern Group of AAA members, and is a member of the committee planning a fall program at Hofstra University.

FRANK A. SINGER is the first president of the School's new chapter of Beta Gamma Sigma.

MICHIGAN

*Alma College*

HARRY M. LANDIS has accepted the position of chairman of the Business and Economics Department.

*Michigan State University*

Recently promoted to associate professor were ADOLPH GRUNEWALD, GARDNER JONES, T. HARRY MCKINNEY, JOHN O'DONNELL, and ROLAND F. SALMONSON.

ALDEN OLSON and FLOYD WINDALL have received appointments at the rank of assistant professor. WILLIAM FERRARA received the Ph.D. degree in August and has accepted an assistant professorship at the University of Illinois.

R. F. SALMONSON participated in the Ninth Annual Forum on Finance held in New York City from June 15 to July 2. JOHN RUSWINCKEL has been teaching elementary accounting via closed-circuit television.

J. DON EDWARDS addressed the First Governmental Accountants Symposium in Detroit and the Michigan College Accounting Educators Conference, held in Flint. He recently served as chairman of the accounting program at the meeting of the Midwest Economics Association.

BERNHARD C. LEMKE has been appointed by the mayor of Turin, Italy, to a commission studying the Turin Transit System.

*Wayne State University*

STANFORD N. PHELPS has been added to the staff. BERNARD F. MAGRUDER, head of the Renegotiation Board in Detroit, has resigned. STUART R. CRANE will attend Indiana University during the current year to work toward the D.B.A. degree.

MISSOURI

*University of Missouri*

LOUIS F. BIAGIONI has left his position as instructor at St. Louis University to accept the same rank at the University of Missouri while pursuing study toward the doctorate. DONALD L. RICHARD received the Ph.D. degree from American University in June.

JOSEPH A. SILVOSO was chairman of the technical sessions of the fiftieth annual meeting of the Missouri Society of CPAs, held in June. In May, Silvoso read a paper on purchasing and inventory controls before the St. Louis Chapter of the American Association of Hospital Accountants.

NEW JERSEY

*Fairleigh Dickinson University*

HARRY W. SANDHUSEN has been elected director of publications for the Paterson Chapter of NAA.

*Rider College*

PETER MILIOTIS has been awarded the M.B.A. degree with highest honors from Fairleigh Dickinson University.

*Upsala College*

HUGH H. REID has been designated acting chairman of the department of business administration.

NEW YORK

*Cornell University*

ARTHUR THOMAS has been appointed lecturer in accounting for the current academic year. JOSEPH E. HAMPTON has been appointed co-editor of *The Federal Accountant*.

*New York University*

HAROLD A. EPPSTON addressed the annual meeting of the New Jersey Bar Association in May on tax problems growing out of real estate transactions. He is serving as advisory editor of the *National Tax Journal* and as a member of the advisory committee on technical services of the New Jersey Society of CPAs.

*Syracuse University*

WILBUR C. HASEMAN has returned from a year in Turku, Finland on a Fulbright Fellowship. WALTER G. KELL spoke on education for controllership to the Syracuse Control of the Controllers Institute.

EVROUL S. GERMAIN spoke on internal auditing at the annual dinner meeting held by the Syracuse Chapter of the Association of Women Accountants. JOHN T. BURKE was the recipient of a fellowship from the Foundation for Economic Education, Inc.

OHIO

*University of Cincinnati*

WAYNE S. OVERMYER has been promoted to the rank of professor. CLARENCE G. AVERY has joined the accounting faculty as an assistant professor.

OKLAHOMA

*The University of Oklahoma*

VERNON H. UPCHURCH has been promoted to professor and chairman of the department. He

replaces D. L. Barnes. William C. McGrew has elevated to full professor. Theodore P. Herrick has received the Ph.D. degree from Ohio State University.

Alva Cummings conducted a course in elementary accounting last summer over educational television stations in Oklahoma City and Tulsa. Students obtained the assignments from the programs and submitted written work by mail.

PENNSYLVANIA

*Duquesne University*

Frank J. Wright has been appointed head of department. T. E. Hollander is on leave to serve as technical assistant to the director of professional development of the AICPA. Robert M. Jennings has joined the faculty.

The new ten-story building for business and law will be the meeting place in November for the Accounting Symposium to be held by the Pittsburgh Chapter of the Pennsylvania Institute of CPAs.

*University of Pittsburgh*

James R. Omps and P. William Capatch have been promoted to assistant professorships. Capatch was recently awarded the CPA certificate. Mark A. Plivelic has joined the staff as an instructor.

Clarence L. Van Sickle and James H. Rossell again lectured in the business management course conducted by Westinghouse Electric Corporation during the summer. Richard A. Ridilla was awarded a faculty fellowship last summer with Price Waterhouse & Co.

TENNESSEE

*University of Tennessee*

W. Harold Read has been named to the newly created post of executive assistant to the president of the University.

TEXAS

*Rice Institute*

Edgar O. Edwards has resigned from Princeton University to accept the appointment as Reginald Henry Hargrove Professor of Economics. He will serve as chairman of department and director of the graduate program.

*Southern Methodist University*

Truxton L. Shaw has been granted a leave of absence for 1959–60 for the purpose of conducting research in the taxation of oil and gas income.

VIRGINIA

*Virginia Polytechnic Institute*

L. Mahlon Harrell, Jr. has been appointed to the Virginia State Board of Accountancy for a two-year term. R. Bruce Prouty has been granted a leave of absence to work on the doctorate at the University of Alabama.

WISCONSIN

*Marquette University*

William N. Bergstrom has succeeded Albert J. Sievers as chairman of the Accounting Department. Sievers is continuing as a staff member after holding the position of chairman for nine years. Howard Launstein has joined the staff with the rank of associate professor.

*University of Wisconsin*

Paul H. Walgenbach has been promoted to associate professor. Robert H. Mills was recently awarded the CPA certificate and is presently on a year's leave to conduct research on security valuations for life insurance companies.

WYOMING

*The University of Wyoming*

Louis C. Jurgensen has been promoted to the rank of professor.

# BOOK REVIEWS

JAMES S. LANHAM, *Editor*

## *Accounting*



## *General*



## *Taxes*

## Accounting

RAYMOND G. ANKERS, *Opportunities in Accounting*, (New York: Vocational Guidance Manuals, Inc., 1958, pp. vi, 118, Price $1.65).

*Opportunities in Accounting*, one of a series of manuals published by Vocational Guidance Manuals, Inc., is directed primarily toward the college student who is undecided as to a career.

In the introductory chapter the author distinguishes between accounting and bookkeeping, gives a brief history of accounting, and points out the various fields of employment open to accountants. After establishing the background for the manual, he covers such important aspects in career determination as personal and educational qualifications, areas of work, and compensation. The author also makes some observations on getting started in the profession and gives some facts regarding various professional organizations in accounting, emphasizing their roles and functions. The manual concludes with pointers for the student as to where he may obtain additional information.

Mr. Ankers points out that success in accounting, as in any other profession, depends primarily on two factors: personal qualifications and education. For discussion purposes, personal qualifications are subdivided into three broad categories, namely: aptitudes, interests, and characteristics. Education is subdivided and discussed from the standpoint of the high school, college, graduate school, and the evening school.

When discussing the areas of work, Mr. Ankers classifies the profession into two categories: public and private. Although the term "public accounting" as used in the manual carries the usual connotation, the term "private accounting" is used in a somewhat broader sense than usual, since it is used to describe all fields of accounting other than public accounting. In discussing the various aspects of work in both public and private accounting, emphasis is placed upon the nature of the work and the opportunities in the area.

While hesitating to present specific salary figures, since compensation ranges are in a constant state of flux, the author indicates that the well-trained accounting graduate will be adequately taken care of compensationwise. He stresses the fact that if a student is fully qualified otherwise, compensation will be no problem.

When indicating sources of additional career information, the author provides a bibliography of books, articles, and pamphlets and a list of what he terms "accounting schools." The bibliography, while not extensive nor indicative of the price, if any, of the pamphlets, should prove helpful to students. The list of schools, although somewhat restrictive, should also prove a worthwhile source of information. (The list is restrictive in the sense that it contains only the names of schools which are members of The American Association of Collegiate Schools of Business or those which offer courses of study registered by the states of New Jersey and New York as meeting their CPA education requirements.)

While some may consider *Opportunities in Accounting* to be slightly oriented toward public accounting, it is the opinion of this reviewer that it should be a welcome and useful addition to the library of every guidance counselor, high school, and college in the country.

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HAROLD BIERMAN, JR., *Managerial Accounting, An Introduction*, (New York: The Macmillan Company, 1959, pp. x, 483, Price $7.50.)

This text is one of the growing number which stress the managerial viewpoint in the accounting, reporting, and analytical process. The book is divided into two parts. The first deals with financial accounting, the second, with managerial accounting.

The section on financial accounting begins in conventional fashion. It explains the position statement, shows the effects of transactions on the statement, and then demonstrates the accounting cycle. The latter part of this section consists of a detailed discussion of the content of the major groups on the position statement, including the entries applicable to relevant items, the preparation of the income statement, and the preparation of the funds statement.

The section on managerial accounting constitutes an orientation of wide scope. The topics covered include standard costs, budgetary control of operations, capital budgeting, direct costing, marginal income and marginal cost in decision-making, breakeven and profit-to-volume analysis, changing price levels, and common dollar accounting.

The book is primarily directed to students interested in accounting as a tool of management. In accordance with this purpose, accounting procedures and techniques are reduced to a minimum. The postulates and principles making up the accounting framework are presented in the first chapter so that at the outset the student is given proper understanding and perspective as to the implications of financial statements. Presentation is concise and direct to permit coverage of the wide variety of topics covered. These topics are so arranged that the instructor can readily omit certain chapters to meet the limiting requirements of a one-semester course. In this connection, the author suggests the chapters that might be omitted.

Each chapter contains questions and problems, generally ranging from five to ten in number. Most of these are short, presumably to conform to the author's objective of stressing concepts and standards overall, rather than their detailed application.

The section on managerial accounting, consisting of seventeen chapters, might be termed an "exposure" to accounting analysis in many management areas. The topics are so broad that many are the basis of individual courses in the curriculum. This is seen from the following chapter titles:

21 Organization for Cost Control and Recording of Costs
22 Manufacturing Overhead

23 Systems of Cost Accounting
24 Analysis of Cost Variances
25 Administration of the Budget Program
26 Control of Costs
27 Control of Inventory
28 Variable Costing, or "Direct Costing"
29 Marginal and Differential Costs, and Decision-making
30 Break-Even Analysis
31 Measuring Performance
32 Accounting Reports for Management
33 Procedures for Recording Costs: Internal Control
34 Capital Budgeting
35 Inventories and a Changing Price Level
36 Depreciation and the Measuring of Income with a Changing Price Level
37 Common Dollar Accounting

Chapters 21 to 24, inclusive, and 26 to 28, inclusive, would normally serve as the basis for a course in Cost Accounting Principles; Chapter 25 and Chapters 29 to 34, inclusive, for a course in Cost Analysis for Management; and Chapters 35 to 37, inclusive, would comprise a significant segment of a course in Contemporary Accounting Theory. The instructor should be very careful in his teaching to stress the fact that the text coverage is survey in character, and that there are numerous implications, modifications, and pitfalls in the application of each approach or technique that require further study in more advanced courses.

The author uses sound pedagogical approach throughout. Examples are the use of the account-method of preparing the statement of funds and the demonstration of the geometry of graphs in the preparation of the break-even chart. He is somewhat critical of the Lifo method, and recommends that the inventory at Lifo cost be increased to a higher current market with a corresponding increase in Stockholder's Equity for the unrealized increment. Ignored, unfortunately, is the current accounting impact of the income tax which will be incurred on the gain at the time of realization.

Taken as a whole, the text represents a fresh approach in content and mode of coverage. It will fit very well the requirements of the college which does not have a comprehensive accounting curriculum, and of the student-major in management, engineering, or economics who is interested in a course in accounting stressing managerial approach and use.

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Committee on Accounting, *Principles of Accounting* (New York: Pitman Publishing Corporation, 1959, pp. xvii, 596, Price $6.50).

The Committee on Accounting, a collaborative writing group of eighty-one professors of accounting from various colleges and universities, authored this text and have published it as a basic text for college students enrolled in first-year accounting classes, whether these students are accounting majors or not.

The publisher states that an entirely new approach employing a cash cycle is a highlight of the book and that the first cycle leads the student through journalizing and posting in a natural, meaningful manner. Questions and problems abound, and supplementing the text are a Workbook, two Practice Sets, Tests, and an Instructor's Manual.

The text does not in my opinion reveal a new approach, for the contents read like most of the texts written on first-year accounting. The first nine chapters take up the various accounts, the bookkeeping and fiscal work, purchases, sales, cash, and the accounting cycle review with Practice Set no. 1, which deals with a proprietorship operating a wholesale men's wear business (the standard seven journals are used) finishing this phase of accounting.

After this, there is the old standard chapter on notes and interest followed by a chapter on accrued and deferred items. The following two chapters, which I consider to be most useful to the first-year accounting student, deal with the valuation of current and fixed assets. The fourteenth chapter presents the standard voucher system method, and the fifteenth presents payroll accounting (although the book is published in 1959, it presents the 1958 rates for FICA).

At this point, the book turns to the presentation of accounting for the other standard net worth equities—partnership (two chapters) and corporation (four chapters: organization and operation, stocks, capital accounts, and bonds)—followed by Chapter 22 on Tax Accounting. Then comes Practice Set no. 2 dealing with a partnership operating a wholesale printing business which changes into a corporate entity for the following month. The set uses the general, the cash receipts, and the sales journals; the voucher and the check registers; and the notes receivable and the notes payable registers.

After completion of the practice set, the text goes into the subjects of manufacturing, job order cost, and process cost accounting devoting a chapter to each. The last five chapters, 26 through 30, deal with business consolidations, supplementary statements, analysis and interpretation of financial statements, budgeting control, and management and accounting. I wonder how many of the eighty-one authors who are practicing teachers will cover this section in a two semester six hour course, especially if taught in the freshman year. Furthermore, some of these subjects may be better taught in a third course.

This text, like so many accounting texts written in the past three decades, forgets that today's students are going to live in a business world employing electronic equipment and that the conditional sales contract is our way of life. A first-year student should be able to keep a set of books and prepare financial statements. If the student studies the journals as illustrated, he will be lost when he enters the business world. The book does not discuss such items as dealer's reserve, accommodation collections and payments, and repossessions or the matter of profit deferred at the end of the year. These are more important than the subjects covered in the usual first-year accounting text.

In summary, a first-year text should enable a student to keep a set of books for a small business in the year 1959, not 1900. Also the student should be able to read

and understand a financial statement. Advanced courses will teach him partnerships, corporations, costs, etc. A basic text should deal only with fundamentals.

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W. ROGERS HAMMOND, *How To Solve Introductory Accounting Problems*, (Englewood Cliffs: Prentice-Hall, Inc., 1959, pp. xvi, 272, Price $2.95).

The purpose of Professor Hammond's book is to assist in the solving of introductory accounting problems. To attain this objective, he develops guides and rules providing direction to the student's efforts. As a starting point, the author emphasizes the necessity for understanding the exact nature of the problem, selecting procedures conducive to a reasonable solution, and carrying the work to its conclusion.

The introductory chapters set forth explanatory remarks which might well be stressed in the first session of the elementary accounting course, dealing with:

(1) the reason for working problems,
(2) the progressive nature of accounting materials, and
(3) the steps in solving problems.

This book should not be confused with a supplementary workbook which supplies additional problems, rather it is designed to be additional text material dealing specifically with the area of problem solving. Therefore, topics selected for discussion are those covered in the standard texts which the average student may experience some difficulty in grasping. Each chapter in the second section of the book deals with only one basic topic, thus permitting easy correlation of Hammond's book with the standard text.

The author specifically omits cost accounting from his discussion. Both criteria for selection of topics would indicate that a chapter might well have been devoted to cost because the majority of beginning accounting texts deal with this subject and students may discover thorny aspects in cost problems. Other topics which might have included are:

Reciprocal accounts and branch accounting
Simple statements of source and application of funds
Elementary consolidation problems.

Although the author does not attempt to be too ambitious in the level of problems discussed, he covers the selected topics adequately for first-year classes. In view of this, the student seeking assistance might find this book helpful—especially in the areas of adjusting entries, statement preparation, control accounts with subsidiary ledgers, and in corporate accounting. Aid is forthcoming from effective use of the following devices: notes calling attention to the intricacies of the illustrative problem or to alternate solutions, summaries at the ends of the chapters, and presentation of solutions in clarifying steps.

Since elementary texts use a variety of accounting terms, supplementary materials should be stated in terms which would be suitable to as many texts as possible. Professor Hammond has used in his book what he considers "traditional" terminology.

A major criticism of this book is that there is considerable repetition of the materials contained in the standard accounting texts.

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CHARLES T. HORNGREN and J. ARTHUR LEER, *CPA Problems and Approaches to Solutions:* Volume I, *Problems and Approaches*, (Englewood Cliffs: Prentice-Hall, Inc., 1959, pp. xii, 392, $5.95).

CHARLES T. HORNGREN and J. ARTHUR LEER, *CPA Problems and Approaches to Solutions:* Volume II, *Solutions and Answers*, (Englewood Cliffs: Prentice-Hall, Inc., 1959, $4.50).

Volume I, *Problems and Approaches*, is divided into three main sections as follows:

Section I—Problems from CPA Examinations in Accounting Practice.
Section II—General Approaches and Specific Approaches.
Section III—CPA examination questions in Theory of Accounts, Auditing, and Commercial Law, together with General Approaches for each block or sub-section.

These three sections are preceded by a Preface, a Table of Contents, and an Introduction.

The Preface to this volume states that "The emphasis is on the most productive procedures in the preparation of solutions [of CPA problems] and on the reasoning underlying them rather than merely on the solutions themselves." It is also stated that the unique feature of this book is its emphasis on the approach to solutions in an attempt to bridge the gap between the formal statement of the problem and the final solution.

The Introduction contains some excellent suggestions and advice for those contemplating sitting for the CPA examination. After a preview of the organization of the materials in the two volumes of this work and recommendations as to use and procedure, a major portion of the introduction is devoted to *The Accounting Practice Examination in Perspective* and discusses these topics:

Basic Nature of Examination
Reading the Problem
Plan of Attack
Problem Requirements
Pressure
Institute Suggestions

These discussions are followed by a helpful summary.

Section I—*Problems from CPA Examinations in Accounting Practice* consists of selected actual CPA practice problems from the Uniform Examinations of the American Institute of Certified Public Accountants. As is usual in compilations of this type, the material is divided into topical groups (fourteen) in a generally familiar pattern. These range from *Accounting Fundamentals* (Topic I), through Application of Funds, Cur-

rent Assets, Costs, Corporations and Partnerships, Consolidations, Fund Accounting, Taxation, and others. Miscellaneous subjects include Estates and Trusts, Actuarial Science, and Statement of Affairs (Topic XIII). The last group (Topic XIV) consists of nine selected supplementary problems. 107 problems are incorporated in Section I; each problem is given an estimated time for completion but no estimates are made of point values for grading purposes. In the Table of Contents each problem is given a page reference to Section I, and, with the exception of Topic XII (Taxation) and Topic XIV (Selected Supplementary Problems), a page reference to Specific Approaches in Section II.

Section II—*General Approaches and Specific Approaches* is, as the sub-title would imply, divided into two sub-sections or divisions by topics corresponding to and identified with the topics covered in Section I. A *General Approach* is offered for each of the first twelve topics. Each *General Approach* is a synopsis or summary of the nature of the accounting problems involved for each topical area and "are intended to provide a brief, convenient, over-all presentation of the major issues and methods of attack in the topical area." Some of the *General Approaches* are less exhaustive than others and emphasize the desirability for additional and more thorough textbook review of a given topic; with this in mind, each *Approach* is concluded with a short bibliography. To illustrate the nature of this *General Approach*, Topic VII—Fixed Assets: Valuation; Disposal; Depreciation; Appraisals, has been selected simply by opening the book at random. In this instance, the *General Approach* consists of a discussion in summary form of general considerations (including a short Institute problem and suggested points on its solution), Depreciation (subheadings: Straight-Line Depreciation, Accelerated Depreciation, Depreciation and Changing Price Level), Depletion, and Intangibles.

The second type of approach or *Specific Approach* embodies suggestions on how to attack specific problems originally presented in Section I. A quotation from the preface will explain what the authors have in mind. "*Specific Approaches* have the following advantages:

(1) They raise questions or jog memories on particular points in each problem, and at the same time they do not give away the answers. They offer in a convenient fashion brief explanations of key difficulties in the problems.

(2) For the reasons in (1) above, they aid the candidate in preparing more adequately *before* class; consequently, class sessions are not bogged down by the instructor's spending time on issues which the candidate could have resolved for himself before class. In this way, more problems can be covered in a single session and a more thorough CPA Review is possible.

(3) If *Specific Approaches* (not *Solutions*) are available for each problem, candidates are likely to have more incentive in making honest efforts at solutions *before* class, rather than giving up when a difficult point arises and waiting to discover the best means of attack in the class meeting."

Section III of fifty pages is made up of Institute questions on Theory of Accounts, Auditing, and Commercial Law, with a separate division for each subject. Each division begins with a *General Approach* followed by 35, 30, and 30 questions respectively for the three subjects. All questions have been selected from the Uniform Examinations and some bibliography is included.

Volume II—*Solutions* is in loose-leaf form and, although each problem solution does not start on a new sheet, in many cases this form permits the instructor to pass out solutions to his students just prior to or following discussion of the problem. This volume includes not only solutions to problems but also answers to the questions in Theory of Accounts, Auditing, and Commercial Law posed in Volume I. Although the type is necessarily small, the solutions are easily followed. Working papers, schedules, adjustments and explanations appear quite complete and satisfactory.

This work represents an admirable and rather meticulous effort by the authors to encourage a candidate to do his own thinking and to progress from problem to solution rather than from solution to problem. Many teachers will find this valuable, not only in so-called coaching courses, but in the development of the thinking man which after all is our ultimate goal in education.

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Eldred A. Johnson, *Accounting Systems in Modern Business*, (New York: McGraw-Hill, 1959, pp. vii, 453, $7.75).

The instructor who teaches a specialized course in accounting systems, or occasionally gets involved in the subject while teaching a related course, sometimes wonders whether it will be possible to reduce the vast amount of information available in this area to portions manageable by the student. It is easy for the instructor to get manufacturers' literature describing the benefits and uses of the mechanical or paper products designed especially for use in an accounting system, so easy—and so reassuring, for it helps provide the student with up-to-date information about the subject. It is a rare and remarkable accountant who can keep abreast of the rapid changes taking place in the accounting systems field, who can comprehend how each new development can be best used within a system, and who can write clearly and intellectually a good student text about the subject. This feat has been accomplished by Professor Eldred A. Johnson in *Accounting Systems in Modern Business*.

Professor Johnson has organized the subject into 16 chapters that are about equally divided between four sections which can best be described as manual accounting procedures, integration of the parts into a system, duplicating and sorting equipment, and machines possessing human abilities. A "Forms Design" appendix and student exercises, or problems, complete the book. The written material is illustrated with pictures of the machines and forms being discussed and with charts which make clear how the accounting data flow from one control point to the next. As a result this is an unusually stimulating book, which informs students about

accounting systems, but will also help instructors and practitioners to have a better understanding of the subject themselves.

The section on manual accounting procedures discusses the types of source documents and journal and ledger forms that are in popular use as well as the types of binders and equipment that are available for an orderly housing of such records. This affords a good background for the discussion of the principles of systems design where the author stresses the need for developing the various parts of a system into a closely knit related whole. He describes how the systems specialist can obtain this objective whether he is creating a new system or whether he is attempting to remedy difficulties that may have arisen within segments of one that is already established. Professor Johnson candidly observes how people are the root of most of the troubles in an accounting system. It is because of this, he explains, that source documents must serve both as a worksheet to assist a person in computing or verifying certain figures and as memory devices. Such comments as—"Written documents are used to overcome human frailties."—"Paper work is the big problem in system design."—and "Why not turn to machines to help prepare these documents and to perpetuate the records."—helps him and the reader make an orderly transition from manual to machine accounting.

The classification of mechanical devices admittedly serves no purpose other than a means whereby each may be discussed as a part of a group rather than separately; this is as it should be because no two different types are alike in every respect. However, his method of discussing them according to the similarity of their functions has the added advantage of helping the reader logically pattern his thinking. As an example, manual duplication equipment, which includes such topics as loose, bound, and continuous typewriter forms, peg-board combinations, strip analysis, direct, offset, gelatin, stencil, and photographic duplicators, is discussed in a separate chapter from that of mechanical accounting equipment, which includes the related subjects of desk calculators, adding, billing, multiple-register, semi-automatic and automatic machines.

Techniques of coding and notching cards described in the chapter entitled "Needle Sort Cards" provides a good introductory background for the chapter on machine punched cards which follows. Numerous practical examples of both IBM and Remington Rand card systems are used to emphasize the adaptability of machine punched cards to a wide variety of accounting needs. A step-by-step treatment of the punching, classifying (sorting), and summarizing card phases simplifies what often times the uninitiated fears to be a rather complicated process. The mass of data available on integrated and automated machines has been reduced to digestible portions under the topic of common language machines. Many meaningful and well illustrated discussions of the versatility of punched, magnetic, and sensitized tape equipment exemplify how machines of this type may be used to partially automate the accounting steps known as preparation of document, recording, classifying, summarizing, and posting by interlocking the related machines in such a way that each will be actuated by a tape reading process.

The use of electronic computers in connection with pinboard, wired panel, and card programmed machines provides Professor Johnson with subject material for a chapter entitled "Externally Programmed Computers." He thoughtfully provides detail step-by-step instructions for programming a payroll operation on one such machine. In connection with this he instructs the reader "to follow through the steps of this program until he understands them." If this advice is followed, there is a good possibility that some will never get an opportunity to read the remainder of the book.

The final category of machines he discusses, he refers to as internally programmed computers and/or accounting systems machines. The essential difference between these and the externally programmed computers stems from the means by which the function of each is controlled. Control of the external programmed machines is said to be gained through the use of pinboards or wired panels, whereas control of the internally programmed unit is accomplished through the use of instructions stored on memory units housed within the machine. At this point the reader is exposed to the likes of binary arithmetic, schematic diagrams of computer tubes, sketches of control circuits, illustrations of computer instructions, and debugging. These topics are sometimes overly rigorous, but all, he insists, are essential.

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Ingvar Ohlsson[1]: *On National Accounting*, (Konjunkturinstitutet: Stockholm, 1953, pp. vii, 354, sw. kr 18:)—(Paper Bound)

This book is the English translation of a Swedish doctoral thesis. The book has been available for some time but only recently has found the attention it deserves. There can be no doubt that it belongs to the comparatively small category of dissertations which are much more than a mere test of ability for scientific investigation; it rather constitutes *a fundamental work* in the area of National Accounting. Although it is—of course—not a textbook, it can be recommended as good supplementary reading in an upper division or graduate course. The content goes beyond the national boundaries and is based not only on English but also on Scandinavian and German literature. The approach of this book is in conformity with the Scandinavian tradition of Frish, Lindahl, Aukrust and other economists who have essentially contributed to this young discipline and whose works constitute the natural outgrowth of the great interest which Scandinavian writers, since Knut Wicksell, have devoted to macroeconomic problems.

The first chapter deals with, what the author calls, *Conditions of National Accounting*. This comprises an exposition of the elements of National Accounting—a

[1] Ohlsson since 1944 has been responsible for the current Swedish national income calculations at the Konjunkturinstitutet, Stockholm.

section which might be of particular interest to the business accountant since it offers definitions and suggestions some of which are general enough to have bearing on micro accounting as well. It continues with a discussion of the Institutional Conditions—a part which not only takes into consideration different economic systems but which concentrates heavily on the reflections of government and bank activities in national accounts (a major interest of the author and main task of the book). Finally, the chapter climaxes in an analysis of the Purposes of National Accounting—this, though appearing early in the book, must be considered the nucleus around which pivots most of the remaining content. Ohlsson recognizes that a system of national accounts can serve several purposes only if it is designed to provide data *pertinent to each* purpose (an idea as important as it is simple and until recently as much neglected in macro accounting as in micro accounting). Therefore the author subsequently suggests three alternatives: (1) the construction of a general purpose system of national accounts from which the special purpose systems may be extracted; (2) the construction of various NA-systems for different purposes; or (3) the construction of one special purpose NA-system with a list of corrections for the main items for which different treatment is required for different purposes. The practical difficulties encountered in setting up a large array of specific statements lead to the compromise of using a limited number of analyses serving the following four purposes: *statements of results* (*R*-statements, which comprise measures of productivity on one side [$R_p$-statements] and of welfare on the other [$R_w$-statements]); *income behavior analysis* (IB-analysis, based on Keynesian and business cycle theory); *structure analysis* (S-analysis, which investigates the "relations between different transactions" and finally supplies a "structure indicator" of the pertinent economy, e.g., the relation of the government's share of the national income to that of the private sector); and *national budgeting* (NB-work, which in socialized or semi-socialized countries goes far beyond the purely financial accounting of government revenues and expenditures).

The second chapter discusses *Recent Developments in National Accounting*. It starts with the traditional National Income Statistics, stresses the importance of Great Britain's contribution, and elaborates on the development in the U.S.A., Sweden, and Germany. Surprisingly enough, a separate section is devoted to Irving Fisher's System with the explanation that "he gives certain definitions and arguments which could very well have been taken from present-day works about national accounting." Two larger sections are reserved for the Norwegian Okosirk-System (in Ankrust's English terminology: Ecocirc-System—derived from "economic circulation") and Stone's National Accounting System. Finally there is a short section dealing with Leontief's System. This chapter offers good illustrations of various approaches in different countries. Since the goals of these systems are not identical, however, and since these systems are not necessarily to be identified with the entire national accounting system of the countries in which they originated, this survey has only limited value of comparison. Also, it can hardly be regarded as complete since systems as those prepared by Copeland, Allais, and others are not taken into consideration.

Chapter III (*The Problem of Valuation*) offers an excellent survey of the discussions and arguments evolving around the problem "market value vs. factory cost" (Bowley, Frish, Kuznets, Little, Rolph, Ruggles, and Samuelson). Since these discussions are closely related to the problem of welfare measurement, the author devotes a separate section to the Statements of Results from the point of view of economic welfare and another from the point of view of production.

The next three chapters (IV–VI) cover *The Accounting Design, The Problems of Periodising and Selection*, as well as *National Income, National Product*, and *National Expenditure*. They constitute the logical elaboration of the thoughts established in the first third of the book and offer a wealth of interesting details which, within the limited frame of this review, cannot be entered into. It may however be noted that the problems dealt with in Chapters IV and V—as the titles betray—also have certain bearings on micro accounting. Occasionally, use is made of algebraic and matrix algebraic notations and the arguments presented are well founded and heavily endowed with quotations from the over two hundred publications listed in the bibliography.

The following two chapters (VII, VIII) are concerned with *National Accounting in Sweden and Lindahl's System of Concepts* and the *Swedish National Budget Work* (1947–52). The final chapter (IX) offers a *Summary and Conclusion*.

Ohlsson has been criticized[2] for inconsistency insofar as he stresses in the beginning of his book the (theoretical) necessity for developing several NA-analyses, each for a certain purpose, but in the end yields to the practical difficulties with the reconciliatory words, "perhaps a rather crude and simple NA-model can be deemed sufficient at present as a rough general purpose NA-system for use in economics of the Swedish type." The reviewer neither interprets this as an inconsistency nor thinks that "this gulf between theory and practice suggests a rather disillusioned attitude to the whole complex of problems."[3] Rather, it is accepted as a natural attitude toward the future and the present respectively—the only attitude possible for a work of basic research in a discipline as young as National Accounting.

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William W. Pyle and John Arch White, *Fundamental Accounting Principles, Revised Edition*, (Homewood, Illinois: Richard D. Irwin, Inc., 1959 pp. vii–753, Price $7.00).

A first-year accounting text usually draws three main questions: what does it cover, in what order, and with

[2] Erik Lindahl: "The Basic Concepts of National Accounting," *International Economic Papers*, Vol. 7, 1957, pp. 71–100.
[3] *Ibid.*, p. 72.

what approach? These questions may first be answered by listing the chapter titles.

Chapter 1. Introduction Through the Accounting Equation
2. Accounts and the Trial Balance
3. The General Journal and Posting
4. Adjusting the Accounts and Preparing the Statements
5. The Work Sheet; Closing the Accounts
6. Accounting for a Merchandising Business
7. Business Papers and Procedures for Purchases and Sales
8. Special Journals and Subsidiary Ledgers
9. Modification of the Journals: The Combination Journal; Departmental Accounting
10. Accounting for Cash
11. Accounting for Notes and Drafts
12. Bad Debts and Accounts Receivable; Inventories and Cost of Goods Sold
13. Accounting for Fixed Assets and Depreciation
14. Adjustments, Additional Considerations
15. The Voucher System for Controlling Liabilities
16. Payroll Accounting
17. Partnerships: Nature and Sharing of Earnings
18. Partnerships: Dissolutions and Liquidations
19. Corporations: Organization and Operation
20. Corporations: Stock Transactions
21. Corporations: Contributed and Retained Capital
22. Long-Term Liabilities and Investments
23. Manufacturing Accounting
24. Basic Job Order Cost Accounting
25. Basic Process Cost Accounting
26. Management's use of Accounting Data
27. Budgets and Budgeting
28. Analysis and Interpretation of Financial Statements
29. Statement of Sources and Applications of Funds
30. Fundamental Accounting Conventions, Concepts, and Standards.

Following each chapter are a series of questions, problems, exercises, and supplementary problems. These problems are well-coordinated with the text material of the chapter. Available to accompany the text are sets of working papers, two practice sets, a workbook of study guides, and a supplementary problem manual.

The dust jacket and preface emphasize the claim that this text is as nearly self-teaching as possible, with management's use of accounting emphasized throughout. The chapter arrangement, with "small-business journals" and departmental accounting introduced in Chapter 9, seems to be an effort toward a management-oriented text; yet the content of most chapters and the presentation within the chapters did not appear to follow this emphasis. Particularly weak from a management view was the explanation of the methods of inventory pricing and depreciation computation. An understanding of these alternatives is vital to management's knowledge; but the reasons for these alternatives and especially their results are poorly explained. Chapters 26 through 29, covering materials usually considered to be management's use of accounting, contain much of the conventional data and frequently give brief, sketchy descriptions of these matters. Outstandingly weak is Chapter 27, which gives a seven-page highlighted summary of budgeting. Chapter 26, however, does introduce the ideas of payback and return on plant investment, replacement timing, and product volume and pricing considerations.

The self-teaching claim also seems only partially true. There are many illustrations, and the use of color in some of them aids in following the accumulating and processing of data. Chapter 3 is helpful to a student by explaining in considerable detail many of the bookkeeping techniques that confront a beginning student. Other chapters elaborate (perhaps more than necessary) on the forms, procedures, documents, and customs underlying transactions.

Several omissions of details, however, offset the additional details presented. The introduction of the temporary accounts is awkward, and their relationship to the proprietorship account is not fully explained. The chapter on notes and drafts, although closely following the chapters on special journals, records all transactions in a general journal only; the fitting of compound entries into special journals is not explained. The Payroll Accounting chapter offers double-page illustrations of reporting Forms 940 and 941, but the forms are blank and are not tied in to any illustrative data. This payroll chapter mentions several times the need for a determination of the amount of wages subject to tax, but there is little explanation and no procedure given as to how this is done. And corporate surplus is stressed as very important; yet its explanation depends primarily on an illustrated surplus statement without text description or development.

Also limiting the self-teaching nature of the book are instances in which illustrated entries are the only means by which an idea is developed or a procedure is traced, without supporting text discussion of the reason for the entry or the results achieved by the entry. Such details may well be filled in by a teacher, but their omission in the text limits its independence as a learning device.

The text material is tedious reading, at best, largely through repetition of phrases and of the subject under discussion. In some cases the authors seem to follow the pedagogic practice of stating an idea three times to sufficiently impress it on the student. Throughout much of the book the style of writing is stilted and awkward. An apparent attempt to use short sentences resulted too frequently in a repetition of the subject nouns with a detrimental effect on the flow of the idea being discussed. Also, a better use of major headings and subheadings within some chapters would have allowed an easier following of the discussion.

In setting up a class schedule from the book a teacher may be troubled by the varying length and type of con-

tent of the chapters. Some chapters are short (Chapter 27, Budgets and Budgeting, contains only seven pages) and are primarily of a generalized discussion nature. Other chapters seem extremely long and full of basic accounting material.

There are some very strong parts of the book. The tie-in of worksheet data and financial statements is very well done. The concept of depreciation is presented very well (in spite of poor writing), and the effect of depreciation on the Statement of Application of Funds is well illustrated and explained. The need for and method of adjustments are nicely explained, and are followed by an excellent presentation of the reasons for and effects of reversing entries. The subject of adjusting entries is handled in easy stages, beginning with simple entries (including a depreciation entry) in Chapter 4, with a full explanation of adjustments coming in later chapters. Weak explanations of the reasons for and effects of the different methods of computing inventory valuation and depreciation charges are the main drawbacks to a generally excellent handling of adjustment data.

The final chapter seems to be another strong point. In this chapter, the basic accounting concepts and conventions are stated and briefly explained. This ending seems to be an excellent means of summarizing the entire text into a logical framework, as well as explaining why some things were done as they were in the earlier chapters.

The basic content of the book is sound and parts are excellent. It is unfortunate that this good core could not have been developed by better writing and editorial care. This extra development could have resulted in an excellent well-coordinated text instead of the mixed results presently achieved.

E. Ben Yager
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*Miami University (Ohio)*

## *General*

Gardner M. Jones, *Electronics in Business*, (East Lansing, Michigan State University, 1959, pp. 106, Price $3.50).

The author has based this monograph, in part, upon a Louisiana State University doctoral dissertation. Jones states that this book was written with "one definite purpose: to appraise the present value and future potential of electronic computer systems in order to assist businessmen in measuring the usefulness of these revolutionary devices in their own situations . . . the intention is to reach the large number of business managers who initially know only a little about electronic data processing. . . ." Jones also devotes a considerable amount of time presenting an expanded definition of the accounting function within a firm, with which the above mentioned business manager may be sorely tempted to take issue unless he continually keeps in mind that Jones is discussing accounting as a function or approach—as opposed to a department in an organizational chart.

The author's definition of accounting is carefully developed in the first chapters. Accounting is not a department—but a service function which not only produces information but "interprets goals and results, points up exceptions, weaknesses, cost savers, revenue boosters, in a search for features which will make the business more productive . . . efficient . . . useful . . . and profitable. There is no clearly defined line between accounting and sales analysis . . . financial management . . . production planning." Jones continues on to briefly develop the case for the accounting approach in most major phases of normal business operation.

An excellent condensed orientation (for the novice) in the "Nature of Electronic Data Processing" is presented in the third chapter—the system and the equipment. The theme of the usefulness and economic feasibility of the EDP system is interwoven with the explanation of the system. At this point, the author starts to draw extensively upon a large bibliography, presenting the evaluation in terms of the opinions and conclusions of the contributing authors. He finally states a conclusion with which the reviewer heartily concurs. "One conclusion can be drawn: no company can make its decision to turn to electronics . . . on the basis of some other company's experience. . . . Each firm's situation is sufficiently different from others that an inquiry directed toward that particular company's circumstances is the only way to find out. . . ."

The author's predicted effects of electronics on the accounting function within and without the firm are discussed in the closing chapters. Once again, unless the reader continually remembers that Jones refers to accounting as a service function, and the computer as a tool for the performance of that function, he may take issue with the responsibilities assigned to the "accountant" and the computer in the planning and control phases of the firm's operations.

The reviewer recommends this small book as a well written, condensed, general introduction to electronic business data processing. The person with general interest will find a concise and effective explanation of the "nature of the beast" and its business implications; the reader with specific interest(s) will be directed into further channels for inquiry and study with a relatively small amount of reading.

Herman C. Heiser
*Partner*
*Lybrand, Ross Bros. & Montgomery*

Thomas J. McNichols, *Policy Making and Executive Action*, (New York: McGraw-Hill Book Company, Inc., 1959, pp. xi, 693, Price $6.50).

The author designed this book to provide a basic format and collection of cases for the teaching of business policy in executive development courses, graduate schools of business, and such other schools which offer

business policy courses. No text materials are presented. Thirty-four cases appear within the author's format. The cases involve reports of concrete events and behavior which have been prepared for class discussion.

The arrangement of cases presents a basic framework for decision making, policy formulation, and the implementation of plans for action. The general classification of cases is as follows—Part One: Top Management in Perspective; Part Two: Analysis of the Situation; Part Three: The Decision-Making Process; Part Four: Implementation Through Organization and Control; Part Five: Basic Day-to-Day Administration; and Part Six: Reappraising and Recharting Courses of Action.

Part One includes introductory cases which are intended to provide direction and a framework for the analysis of business situations. They serve to develop the student's conceptual ability to recognize the interrelationship of business functions and to understand the business enterprise as a whole economic unit.

Parts Two, Three, Four and Six contain cases which may be used to develop the student's over-all administrative skill. The basic sequential processes of administration or management are emphasized. These processes of administration, which define the executive functions, are described by the author as: (1) Analyzing the situation; (2) Determining basic objectives and developing plans for action; (3) Organizing to put plans into action and setting up control measures to appraise results; and (4) Reappraising the situation—objectives, plans, and controls—to rechart courses of action.

Part Five contains cases which represent a logical extension of the framework developed for the administrative processes. However, they are designed to permit a more detailed analysis of the routine procedural executive functions. Specific organizational matters such as the use of committees in management, delegation of authority, executive development, and communication in management are highlighted in some of the cases in this part.

There is an introductory chapter preceding the cases in which the author gives a suggested approach to case analysis and the administrative process. Suggestions are provided to guide the student in making an analysis of the situation. Charts are shown to illustrate the relationships of internal factors, external factors, and skills and resources with the focal point for executive action which involves objectives, planning, organization, and control. Guides are listed for setting basic objectives and shaping the corporate image. Examples of key questions are listed for testing the effectiveness of the implementation of decisions and plans through organization and control.

Inasmuch as no text material appears in this casebook, the introductory chapter can be very helpful to both students and instructors. The author's point of view concerning case analysis and the administrative process provides the framework and the approach for policy making and executive action by means of simulated analysis and decision making within the framework of the sequence of cases.

A contribution to the case method of instruction has been made with this collection of cases. There is a good representation of cases presented from the areas of finance, manufacturing, publishing, and marketing institutions. Although most of the cases have been drawn from the area of manufacturing, there is a wide coverage of different industries such as chemical, electrical, metal products, et cetera.

The individual cases involve the major functions of business and serve to integrate the administrative point of view regarding production, financing, marketing, personnel, and foreign operations. The author makes excellent use of organization charts and quantitative financial data for the analysis of pertinent information in almost all the case examples. Each case is well organized and well written to enable a student to develop his abilities in the analysis of business situations and the administrative or management process.

Although this book is not for executive reading, the reviewer has no hesitancy in recommending it for use in a business policy case course in either executive development programs or professional schools of business.

John F. Mee
Professor and Chairman
Department of Management
*Indiana University*

## *Taxes*

Philip Bardes, James J. Mahon, John McCullough, Mark E. Richardson, editors, *Montgomery's Federal Taxes*, 37th edition (New York: The Ronald Press Company, 1958, pp. ix, 1333, $25).

This very large and very authoritative general coverage of the Federal income, gift, and estate taxes is the work of a large group of well-qualified persons, composed of four editors and fifty-two contributors. It is the most recent, the thirty-seventh, in a long line of editions of this distinguished reference work. A detailed review of this book is not feasible and is not necessary for anyone familiar with Federal income tax literature. However, a brief description is in order for those not so well acquainted with what has been written on the subject.

*Montgomery's Federal Taxes* covers the income taxation of individuals, partnerships, estates and trusts, and corporations, and estate and gift taxes. There are suggestions for tax planning throughout the text; in addition, one chapter is devoted exclusively to family and estate tax planning. References to the Code, Treasury rulings, regulations, and court decisions are spread liberally throughout the book. Tables B through E at the end of the volume facilitate the location of the authors' discussion of specific Code sections, provisions of the Technical Amendments Act of 1958 and the Small Business Tax Revision Act of 1958, regulations, Treasury rulings, and court decisions. A sixty-five page general index makes it possible to locate specific subjects with a minimum of effort. Each chapter is preceded by

a very helpful and detailed table of contents for the chapter and is ended with a checklist of opportunities for tax planning.

Although the publication date is 1958, this volume includes a discussion of the Technical Amendments Act of 1958 and the Small Business Tax Revision Act of 1958, which became law late in 1958. Naturally enough, few Treasury regulations and rulings on the 1958 legislation were available for inclusion. Direct quotations of law, regulations, and decisions are kept to a minimum; simple and clear statements of the substance of a provision or ruling are provided along with a reference to the official source. Fundamental rules of general application are emphasized; minor exceptions or items of limited interest are played down with little more than a reference. The scope and arrangement of the book is:

*I—Income Taxes*

Income and Deductions

- Ch. 1—73 pp. Income-Inclusions and Exclusions
- Ch. 2—39 pp. Sales of Inventories and Services
- Ch. 3—63 pp. Compensation for Personal Services
- Ch. 4—31 pp. Deductions for Interest, Taxes, and Contributions
- Ch. 5—82 pp. Expenses, Losses, and Miscellaneous Deductions
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Tax Accounting

- Ch. 7—28 pp. Tax Basis of Property
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- Ch. 16—36 pp. Foreign Business and Employment

Determination of Taxable Income and Tax

- Ch. 17—79 pp. Corporations
- Ch. 18—52 pp. Partnerships
- Ch. 19—28 pp. Individuals
- Ch. 20—53 pp. Estates and Trusts

*II—Estate and Gift Taxes and Planning*

- Ch. 21—93 pp. Estate and Gift Taxes
- Ch. 22—50 pp. Family and Estate Tax Planning

*III—Administration*

- Ch. 23—47 pp. Payment and Refund of Taxes

The foreword to the book states that its basic purpose is to present a clear and concise explanation of Federal income, estate, and gift tax law which will be of the greatest value to managers and owners of businesses, corporate executives, investors, and professional advisers. This objective has been met in excellent fashion, as it has been for so many years in earlier editions.

In addition, an important aim has been to develop the volume as a text for advanced tax courses. The lack of problems for solution by the students probably will discourage teachers from using this book for undergraduate, problem-solution type of courses in preference to the widely-used (in spite of their shortcomings) Federal tax courses of Prentice-Hall, Inc. and Commerce Clearing House, Inc. However, *Montgomery's Federal Taxes* is a valuable reference book—to be used along with other tax books, tax periodicals, and looseleaf tax services—for advanced tax courses which include instruction in tax research and case preparation. Its greatest use probably is as a reference book rather than as a textbook.

Probably most persons familiar with the literature of income tax determination agree that *Montgomery's Federal Taxes* deserves one of the top spots among reference books suitable for businessmen, tax practitioners, teachers of income taxation, and libraries.

Charles J. Gaa
Professor of Accounting

*Michigan State University*

SYDNEY A. GUTKIN AND DAVID BECK, *Tax Avoidance vs. Tax Evasion* (New York: The Ronald Press Company, 1958, pp. vii, 220, $10.00).

ROBERT S. HOLZMAN, *Sound Business Purpose* (New York: The Ronald Press Company, 1958, pp. vii, 208, $10.00).

Here are two additional books in Ronald's Tax Practitioner's Library, edited by Robert S. Holzman. The general arrangement of materials follows that of the earlier books in this series (see reviews in THE ACCOUNTING REVIEW, April, 1959).

The authors of *Tax Avoidance vs. Tax Evasion* approach their subject delicately, probingly. In the "problem" chapter, which is characteristic of the series, both the historical and analytical approaches to orientation are employed. Tax evasion is associated with the use of fraudulent means of reducing a person's proper tax. Tax avoidance, less readily identifiable, may be implemented by non-ordinary transactions, which the authorities will scrutinize for "substance"; in the business world, the standard of a proper means for tax reduction (assuming that the transaction complies with the letter of the law) is what "the objective business man" would do in his quest for profits.

Holzman's book on Sound Business Purpose undertakes to explore the meaning, implications, and areas of application of a particular judicial doctrine, the "business purpose test." In Judge Hand's view, that doctrine is simply an expression of judicial regard for the reality or substance of a transaction which complies with the letter of the specific tax law. Unfortunately, Holzman's treatment does not differentiate clearly between the concepts of "sound business purpose" in the foregoing technical sense and purpose in a more personal sense akin to motivation. Gutkin and Beck in 25 pages establish a more effective orientation toward the cases which follow than does Holzman in 60 pages of quotation-studded text.

In *Tax Avoidance vs. Tax Evasion* the cases reported and analyzed in the basic chapter 2 are understandably divided between those dealing with the avoidance problem and those illustrating devices used in evasion contests. The latter category is further subdivided between civil and criminal evasion. The topical headings used in the section on avoidance cases are not unlike the single set of headings used by Holzman for his chapter 2 cases. Thus, some of the headings common to the two books are: reorganizations, assignment of income, partnerships, debt vs. equity financing, and sale and lease-back. Holzman's coverage of cases is more extensive. Since his subject is more limited, he employs fewer topical headings, and his case inclusions are more comprehensive. Under the "reorganizations" topic, for example, Gutkin and Beck list only 6 cases in contrast to almost 100 by Holzman. The joint authors have selected cases for their illustration value, and have emphasized leading cases in the several areas.

The double-column arrangement of case materials is employed consistently and effectively by Gutkin and Beck. In the "avoidance" section, for example, the column headings are "avoidance technique" and "findings." The first column presents a careful statement of the business facts and of the issue presented. The second column typically states the findings of fact or ultimate conclusions of fact drawn by the court, and the conclusion of law in the cited case. The reader soon develops confidence in the continuance of this dual arrangement.

A dual-column arrangement is used also by Holzman. His column-headings are "taxpayer's argument" and "findings." The criticisms noted in the review of Holzman's *Arm's Length Transactions* (THE ACCOUNTING REVIEW, April, 1959) apply also to the currently reviewed book by Holzman. Only lip-service is given to the column approach.

The second and third sections of Gutkin and Beck's chapter 2, on evasion devices, are more comparable between themselves than either of these two sections is with Holzman's chapter 2. The captions under which the illustrative cases are collected are basically similar. These include "fictitious transactions and entities," "dummies and straw-men," "handling and mishandling books and records," and "reliance on tax adviser." The main distinction between civil evasion and criminal evasion cases is in the degree of proof required of the government.

The greatest similarity between the two books is in chapter 3. Here the captions used in chapter 2 are arranged alphabetically, and the cases related to each caption are collected in alphabetic order. The chapter 3 arrangement of cases has more significance for the Gutkin and Beck book, since Holzman's chapter 2 used only a single scheme of captions. Furthermore, the cases could have been ordered in alphabetic sequence by topic and by case name in chapter 2, inasmuch as the logic of the actual arrangement of cases there is not evident.

Under the general arrangement adopted for the books in this series, the final chapter is labeled "Steps To Be Taken." The reference, however, varies with the nature of the subject and, apparently, with the personal inclination of the author. Holzman recasts the materials of chapter 1 in a set of Do and Don't molds. These are followed by certain general admonitions, such as "watch the time sequence," "be realistic," and be technically sound; and some emphasis is placed on forms of documentation in corporate minutes and letters.

Gutkin and Beck continue to differentiate the problems of avoidance and evasion. Their section on steps to be taken to avoid taxes represents an orientation toward the broad substantive area of tax law and is directed to the professional activities of the tax adviser. A brief statement of general considerations is followed by an enumeration of detailed considerations designed to illustrate the use of check lists. The latter are related to tax problems of the family, real estate, insurance, the business enterprise, and the family foundation. The authors expressly disclaim any purpose of suggesting means of evading taxes. The concise statements of points associated with the handling of fraud cases should be a helpful refresher for accountants, and their greater knowledge of the procedural law may contribute to more effective cooperation between the lawyer and the accountant in tax fraud cases.

HARVEY T. DEINZER
Professor of Accounting
*University of Florida*

# *PLACEMENT INFORMATION*

MBA, CPA, six years college accounting teaching experience, eight years public and industrial accounting experience, some advanced research and writing. Man desires permanent position on faculty of medium-sized college in accounting and business administration. Résumé on request.

#4591

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#4592

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